

Exhibit No. 6-E, Part I
Docket No. R-2021-3027385
Docket No. R-2021-3027386
Witness: J. J. Spanos

AQUA PENNSYLVANIA, INC.

BRYN MAWR, PENNSYLVANIA

CHELtenham OPERATIONS

2021 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO WASTEWATER PLANT
AS OF MARCH 31, 2021

Prepared by:



Gannett Fleming

*Excellence Delivered **As Promised***

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AS OF MARCH 31, 2021

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Camp Hill, Pennsylvania



*Excellence Delivered **As Promised***

August 13, 2021

Aqua Pennsylvania, Inc.
762 Lancaster Avenue
Bryn Mawr, PA 19010

Attention: William C. Packer
Vice President, Regulatory Accounting & Regional Controller

Ladies and Gentlemen:

Pursuant to your request, we have determined the annual depreciation accruals applicable to wastewater plant as of March 31, 2021 for the Cheltenham Operations. Summaries of the original cost, annual accruals and the book depreciation reserve are presented in Tables 1 and 2, beginning on page I-3 of the attached report.

A description of the methods and procedures upon which the study was based, as well as support for the service life estimates, is set forth in a companion report "2022 Depreciation Study - Calculated Annual Depreciation Accruals Related to Wastewater Plant as of March 31, 2022".

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

A handwritten signature in black ink, reading "John J. Spanos".

JOHN J. SPANOS
President

JJS:mle

067880.100

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PART I. RESULTS OF STUDY

AQUA PENNSYLVANIA, INC.

WASTEWATER ASSETS

DEPRECIATION STUDY

PART I. RESULTS OF STUDY

SUMMARY OF RESULTS

Table 1 summarizes the results of the depreciation study, which sets forth the book reserve and the calculated annual depreciation related to original cost as of March 31, 2021, and the annual amortization of negative salvage for the Cheltenham Operations system. Table 2 presents the calculation of the amortization of experienced net salvage, by account, based on the five-year period, 2016-2020.

DETAILED TABULATIONS OF DEPRECIATION CALCULATIONS

The supporting data for the depreciation calculations are presented in account sequence in the section beginning on page II-2. The original cost, calculated accrued depreciation, allocated book reserve, future accruals, remaining life and annual accrual are shown for each vintage of each account or subaccount. The amounts of regular retirements, gross salvage, and cost of removal are set forth by account for the years 2016 through 2020, on page III-2.

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WASTEWATER PLANT AS OF MARCH 31, 2021

DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	ORIGINAL COST AS OF MARCH 31, 2021 (3)	BOOK DEPRECIATION RESERVE (4)	FUTURE ACCRUALS (5)	CALCULATED ANNUAL ACCRUAL AMOUNT (6)	CALCULATED RATE (7)=(6)/(3)	COMPOSITE REMAINING LIFE (8)=(5)/(6)
INTANGIBLE PLANT							
351.00 ORGANIZATION	NONDEPR.	617,031.21					
TOTAL INTANGIBLE PLANT		617,031.21					
NONDEPRECIABLE PLANT							
353.20 LAND AND LAND RIGHTS - COLLECTION	NONDEPR.	9,552.64					
TOTAL NONDEPRECIABLE PLANT		9,552.64					
DEPRECIABLE PLANT							
361.00 COLLECTION MAINS - GRAVITY	75-R2.5	53,822,773.35	11,097,347	42,725,427	892,762	1.66	47.9
363.00 SERVICES	70-R4	3,315,369.83	2,762,001	553,368	60,428	1.82	9.2
391.00 TRANSPORTATION EQUIPMENT	15-L3	281,820.00	243,421	38,399	4,393	1.56	8.7
393.00 TOOLS, SHOP AND GARAGE EQUIPMENT	20-SQ	1,424.36	41	1,383	72	*	19.2
396.00 COMMUNICATION EQUIPMENT - GENERAL	15-SQ	2,856.24	100	2,756	193	*	14.3
TOTAL DEPRECIABLE PLANT		57,424,243.78	14,102,911	43,321,333	957,848		
TOTAL WASTEWATER PLANT IN SERVICE		58,050,827.63	14,102,911	43,321,333	957,848		
AMORTIZATION OF NET SALVAGE					199		
TOTAL WASTEWATER PLANT		58,050,827.63	14,102,911	43,321,333	958,047		

* ACCRUALS CALCULATED FOR EACH ASSET BY THE COMPANY'S PROPERTY RECORD SYSTEM USING THE AMORTIZATION PERIOD SET FORTH IN COLUMN 2.

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

TABLE 2. AMORTIZATION OF EXPERIENCED NET SALVAGE

ACCOUNT (1)	2016		2017		2018		2019		2020		NET SALVAGE (12)*	SALVAGE ACCRUAL (13)=(12)/5
	GROSS SALVAGE (2)	COST OF REMOVAL (3)	GROSS SALVAGE (4)	COST OF REMOVAL (5)	GROSS SALVAGE (6)	COST OF REMOVAL (7)	GROSS SALVAGE (8)	COST OF REMOVAL (9)	GROSS SALVAGE (10)	COST OF REMOVAL (11)		
	-	+	-	+	-	+	-	+	-	=		
354.20											-	0
354.30											-	0
354.40											-	0
361.00											-	0
363.00									992.67		(992.67)	(199)
371.30											-	0
380.00											-	0
TOTAL	-	-	-	-	-	-	-	-	-	992.67	(992.67)	(199)

* COLUMN (12) EQUALS THE SUMMATION OF COLUMNS (2) THROUGH (11).

PART II. DETAILED DEPRECIATION CALCULATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AS OF MARCH 31, 2021

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	PCT OF COL 4 TOTAL (6)
1928	504,855	420,631	84,224	84,224	0.2
1939	1,400,855	1,118,976	281,879	366,103	0.9
1942	2,210,531	1,720,349	490,182	856,285	2.0
1944	2,857,714	2,199,630	658,084	1,514,369	3.5
1947	1,446,335	1,066,309	380,026	1,894,395	4.4
1950	929,390	675,807	253,583	2,147,978	5.0
1952	1,669,234	1,188,708	480,526	2,628,504	6.1
1955	3,033,759	2,132,406	901,353	3,529,857	8.2
1958	1,335,429	897,489	437,940	3,967,797	9.2
2005	182,577	38,246	144,331	4,112,128	9.5
2009	103,948	16,686	87,262	4,199,391	9.7
2011	2,903,464	391,652	2,511,812	6,711,202	15.5
2013	6,270,103	680,629	5,589,474	12,300,676	28.4
2016	330,291	246,748	83,543	12,384,219	28.6
2018	32,119,218	1,307,470	30,811,748	43,195,967	99.7
2020	90,998	1,102	89,896	43,285,863	99.9
2021	35,543	72	35,471	43,321,333	100.0
SUBTOTAL	57,424,244	14,102,911	43,321,333		
NONDEPRECIABLE	626,584				
TOTAL	58,050,828	14,102,911	43,321,333		

UTILITY PLANT IN SERVICE

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

ACCOUNT 361 COLLECTION MAINS - GRAVITY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2021

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R2.5						
NET SALVAGE PERCENT.. 0						
1928	352,546.48	317,186	281,299	71,247	10.34	6,890
1939	972,359.92	834,674	740,237	232,123	13.49	17,207
1942	1,669,347.80	1,406,592	1,247,447	421,901	14.71	28,681
1944	2,103,115.99	1,743,273	1,546,036	557,080	15.84	35,169
1947	1,253,779.30	1,017,066	901,993	351,786	17.16	20,500
1950	762,598.68	604,283	535,913	226,686	18.54	12,227
1952	1,455,619.45	1,140,915	1,011,830	443,789	18.96	23,407
1955	2,406,029.35	1,835,079	1,627,455	778,574	20.46	38,053
1958	1,167,794.87	864,635	766,808	400,987	22.00	18,227
2005	182,576.86	43,125	38,246	144,331	50.92	2,834
2009	103,948.42	18,815	16,686	87,262	53.18	1,641
2011	2,903,463.65	441,617	391,652	2,511,812	54.35	46,215
2013	6,270,102.93	767,461	680,629	5,589,474	55.54	100,639
2016	48,470.82	3,752	3,327	45,144	56.60	798
2018	32,119,218.21	1,474,272	1,307,470	30,811,748	57.13	539,327
2020	21,532.38	289	256	21,276	55.43	384
2021	30,268.24	70	63	30,206	53.64	563
	53,822,773.35	12,513,104	11,097,347	42,725,427		892,762
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 47.9						1.66

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

ACCOUNT 363 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2021

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R4						
NET SALVAGE PERCENT.. 0						
1928	152,308.63	146,917	139,332	12,977	3.40	3,817
1939	428,494.90	399,357	378,739	49,756	5.96	8,348
1942	541,183.13	498,646	472,902	68,281	6.72	10,161
1944	754,598.40	689,175	653,594	101,004	7.29	13,855
1947	192,555.30	173,261	164,316	28,239	8.21	3,440
1950	166,791.01	147,510	139,894	26,897	9.25	2,908
1952	213,614.99	186,507	176,878	36,737	9.99	3,677
1955	627,729.82	532,440	504,951	122,779	11.77	10,432
1958	167,634.29	137,795	130,681	36,953	13.59	2,719
2020	65,184.67	743	705	64,480	65.04	991
2021	5,274.69	10	9	5,265	65.66	80
	3,315,369.83	2,912,361	2,762,001	553,368		60,428
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						9.2 1.82

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

ACCOUNT 391 TRANSPORTATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2021

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 15-L3						
NET SALVAGE PERCENT.. 0						
2016	281,820.00	99,201	243,421	38,399	8.74	4,393
	281,820.00	99,201	243,421	38,399		4,393
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 8.7						1.56

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

ACCOUNT 393 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2021

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
2020	1,424.36	53	41	1,383	19.25	72
	1,424.36	53	41	1,383		72
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 19.2 5.05						

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

ACCOUNT 396 COMMUNICATION EQUIPMENT - GENERAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2021

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2020	2,856.24	143	100	2,756	14.25	193
	2,856.24	143	100	2,756		193
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						14.3 6.76

PART III. EXPERIENCED NET SALVAGE

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

EXPERIENCED RETIREMENTS BY ACCOUNT AND ASSOCIATED
COST OF REMOVAL, GROSS SALVAGE, AND NET SALVAGE

ACCT	REGULAR RETIREMENTS	COST OF REMOVAL	GROSS SALVAGE	NET SALVAGE
2016 TRANSACTION YEAR				
2017 TRANSACTION YEAR				
2018 TRANSACTION YEAR				
2019 TRANSACTION YEAR				
2020 TRANSACTION YEAR				
	363.00	992.67		992.67-
		992.67		992.67-
	TOTAL	992.67		992.67-

Exhibit No. 6-E, Part II
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AQUA PENNSYLVANIA, INC.

BRYN MAWR, PENNSYLVANIA

CHELTENHAM OPERATIONS

2022 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS

RELATED TO WASTEWATER PLANT

AS OF MARCH 31, 2022

Prepared by:



Gannett Fleming

*Excellence Delivered **As Promised***

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CHELtenham OPERATIONS

2022 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO WASTEWATER PLANT
AS OF MARCH 31, 2022

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Camp Hill, Pennsylvania



*Excellence Delivered **As Promised***

August 13, 2021

Aqua Pennsylvania, Inc.
762 Lancaster Avenue
Bryn Mawr, PA 19010

Attention: William C. Packer
Vice President, Regulatory Accounting & Regional Controller

Ladies and Gentlemen:

Pursuant to your request, we have determined the annual depreciation accruals applicable to wastewater plant as of March 31, 2022 for the Cheltenham Operations. The results of our study as of March 31, 2022, are presented in the attached report. The results of our study as of March 31, 2021, are presented in our report, "2021 Depreciation Study - Calculated Annual Depreciation Accruals Related to Wastewater Plant as of March 31, 2021." The same methods, procedures and estimates are used in both studies.

The attached report sets forth a description of the methods and procedures upon which the studies were based, the estimates of survivor curves, and the calculated annual depreciation as of March 31, 2022.

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

A handwritten signature in black ink, reading "John J. Spanos".

JOHN J. SPANOS
President

JJS:mle

067880.100

Gannett Fleming Valuation and Rate Consultants, LLC

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PART I. INTRODUCTION

AQUA PENNSYLVANIA, INC.

DEPRECIATION STUDY

PART I. INTRODUCTION

SCOPE

This report sets forth the results of the depreciation study for Aqua Pennsylvania, Inc. to determine the annual depreciation accrual rates and amounts applicable to the original cost of wastewater plant as of March 31, 2022 for the Cheltenham Operations system. The rates and amounts are based on the straight line remaining life method of depreciation. This report also describes the concepts, methods and judgments which underlie the recommended annual depreciation accrual rates related to wastewater plant in service as of March 31, 2022.

Part I, Introduction, contains statements with respect to the basis of the study and the development of net original cost. Part II, Estimation of Survivor Curves, presents descriptions of the considerations and methods used in the service life study. Part III, Service Life Considerations, presents the results of the average service life analysis. Part IV, Calculation of Annual and Accrued Depreciation, describes the procedures used in the calculation of group depreciation. Part V, Results of Study, presents summaries by depreciable group of annual depreciation accrual rates and amounts, as well as composite remaining lives. Part VI, Service Life Statistics presents the statistical analysis of service life estimates, Part VII, Detailed Depreciation Calculations presents the detailed tabulations of annual depreciation and Part VIII, Experienced and Estimated Net Salvage presents the cost of removal and gross salvage recorded for the period 2017-2021.

BASIS OF THE STUDY

The purpose of the depreciation study was to determine the annual depreciation accruals applicable to the original cost of wastewater plant in service as of March 31, 2022. For most accounts, the straight line remaining life method using attained ages, the book depreciation reserve and estimated survivor curves, was the basis for the calculation of annual depreciation. For certain accounts, the annual and accrued amortization amounts were based on the age of the property and the selected amortization period.

The survivor curve estimates were based on judgment which incorporated (1) analyses of historical data related to wastewater property for all wastewater systems; (2) consideration of the character, use and location of the property; (3) probable future events and management plans; and (4) a general knowledge of wastewater property lives. The use of Iowa type survivor curves is a generally-accepted method of estimating average service life when the actual lives of individual property units are dispersed.

PART II. ESTIMATION OF SURVIVOR CURVES

PART II. ESTIMATION OF SURVIVOR CURVES

The calculation of annual depreciation based on the straight line method requires the estimation of survivor curves and the selection of group depreciation procedures. The estimation of survivor curves is discussed below and the development of net salvage is discussed in later sections of this report.

SURVIVOR CURVES

The use of an average service life for a property group implies that the various units in the group have different lives. Thus, the average life may be obtained by determining the separate lives of each of the units or by constructing a survivor curve by plotting the number of units which survive at successive ages.

The survivor curve graphically depicts the amount of property existing at each age throughout the life of an original group. From the survivor curve, the average life of the group, the remaining life expectancy, the probable life, and the frequency curve can be calculated. In Figure 1, a typical smooth survivor curve and the derived curves are illustrated. The average life is obtained by calculating the area under the survivor curve, from age zero to the maximum age, and dividing this area by the ordinate at age zero. The remaining life expectancy at any age can be calculated by obtaining the area under the curve, from the observation age to the maximum age, and dividing this area by the percent surviving at the observation age. For example, in Figure 1, the remaining life at age 30 is equal to the crosshatched area under the survivor curve divided by 29.5 percent surviving at age 30. The probable life at any age is developed by adding the age and remaining life. If the probable life of the property is calculated for each year of age, the probable life curve shown in the chart can be developed. The frequency curve presents the number of units retired in each age interval. It is derived by obtaining the differences between the amount of property surviving at the beginning and at the end of each interval.

This study has incorporated the use of Iowa curves developed from a retirement rate analysis of historical retirement history. A discussion of the concepts of survivor curves and of the development of survivor curves using the retirement rate method is presented below.

Iowa Type Curves

The range of survivor characteristics usually experienced by utility and industrial properties is encompassed by a system of generalized survivor curves known as the Iowa type curves. There are four families in the Iowa system, labeled in accordance with the location of the modes of the retirements (or the portion of the frequency curve with the highest level of retirements) in relationship to the average life and the relative height of the modes. The left moded curves, presented in Figure 2, are those in which the greatest frequency of retirement occurs to the left of, or prior to, average service life. The symmetrical moded curves, presented in Figure 3, are those in which the greatest frequency of retirement occurs at average service life. The right moded curves, presented in Figure 4, are those in which the greatest frequency occurs to the right of, or after, average service life. The origin moded curves, presented in Figure 5, are those in which the greatest frequency of retirement occurs at the origin, or immediately after age zero. The letter designation of each family of curves (L, S, R or O) represents the location of the mode of the associated frequency curve with respect to the average service life. The numbers represent the relative heights of the modes of the frequency curves within each family. A higher number designates a higher mode curve.

The Iowa curves were developed at the Iowa State College Engineering Experiment Station through an extensive process of observation and classification of the ages at which industrial property had been retired. A report of the study which resulted in the classification of property survivor characteristics into 18 type curves, which constitute three of the four families, was published in 1935 in the form of the Experiment Station's Bulletin 125.

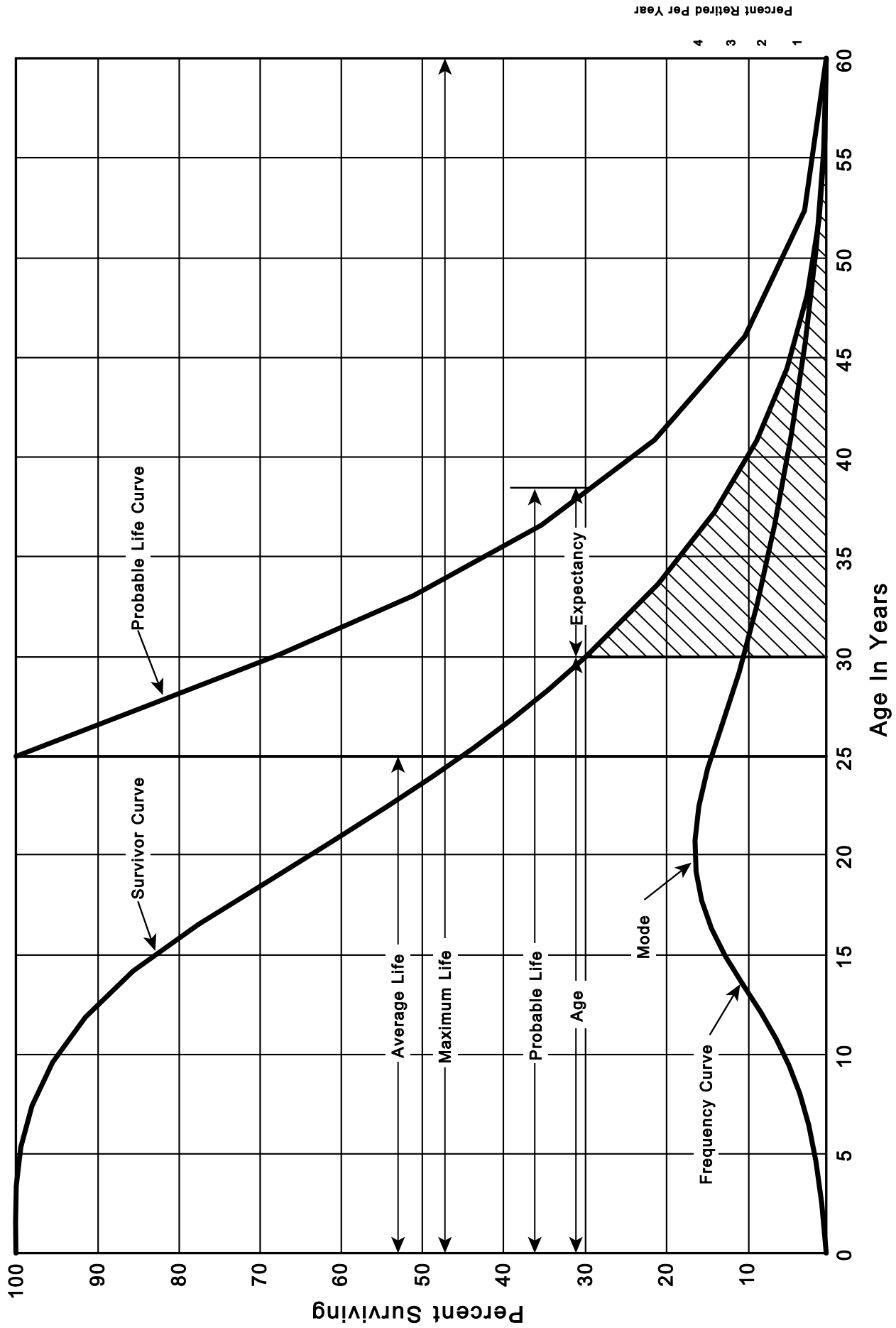


Figure 1. A Typical Survivor Curve and Derived Curves

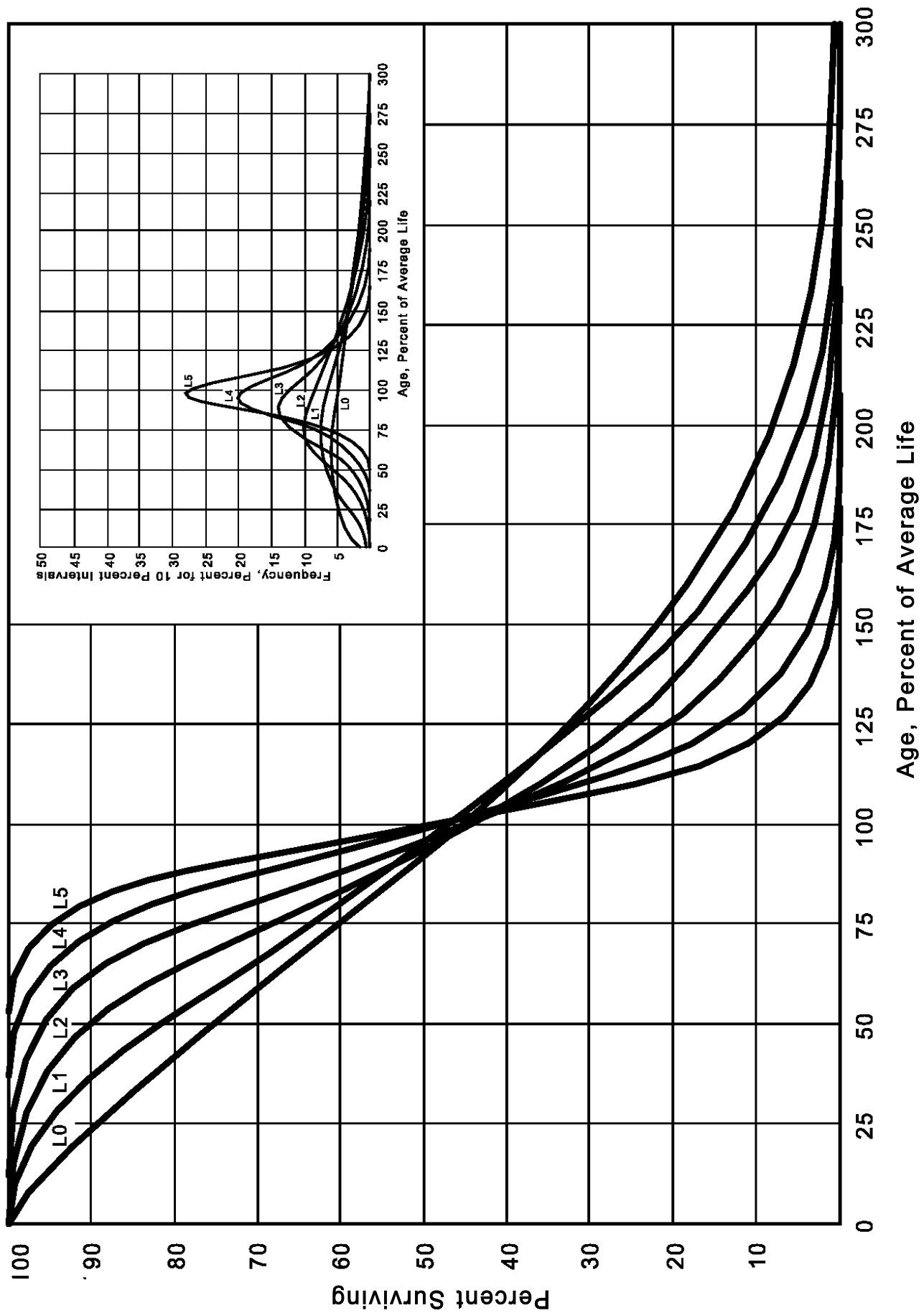


Figure 2. Left Modal or "L" Iowa Type Survivor Curves

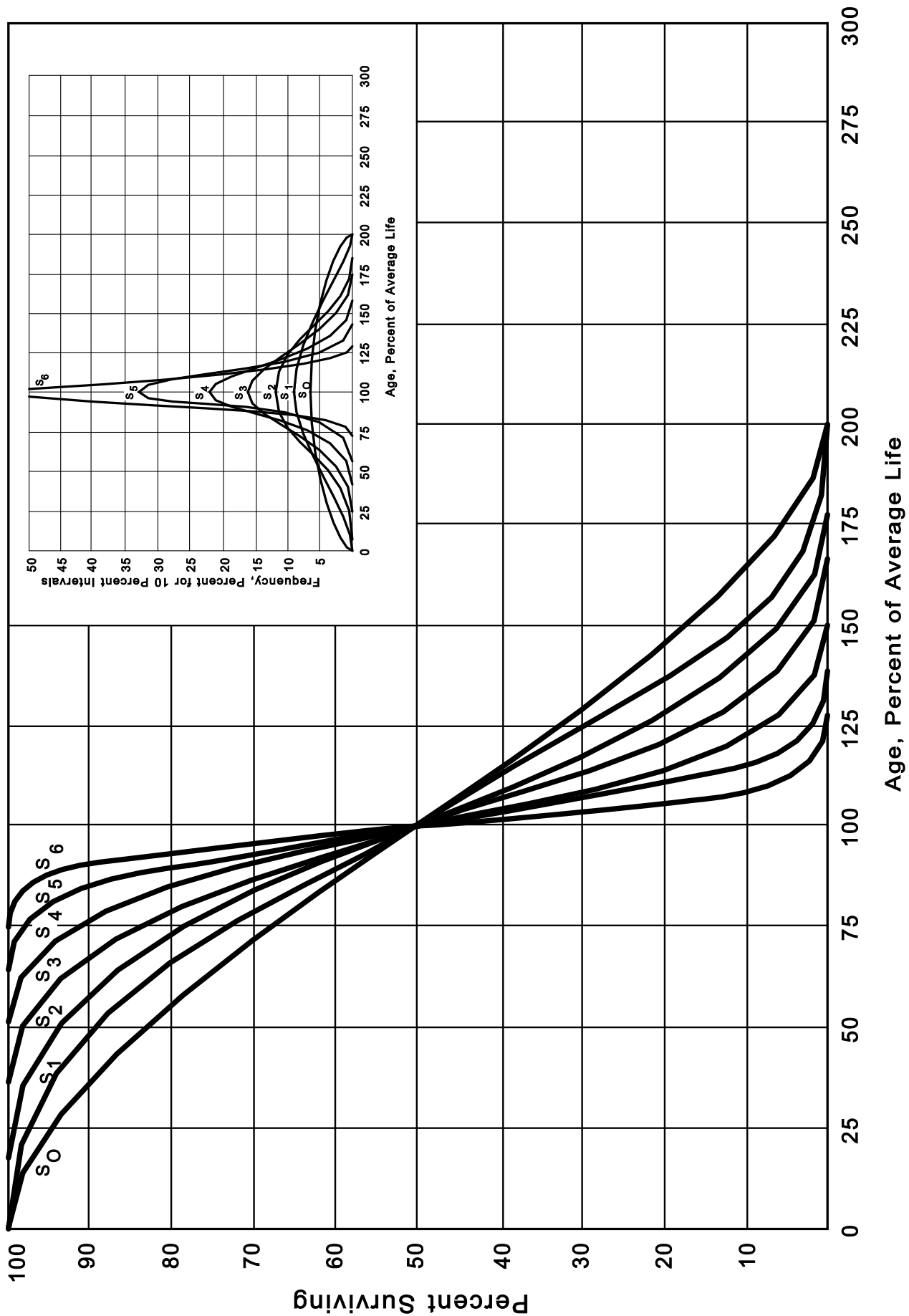


Figure 3. Symmetrical or "S" Iowa Type Survivor Curves

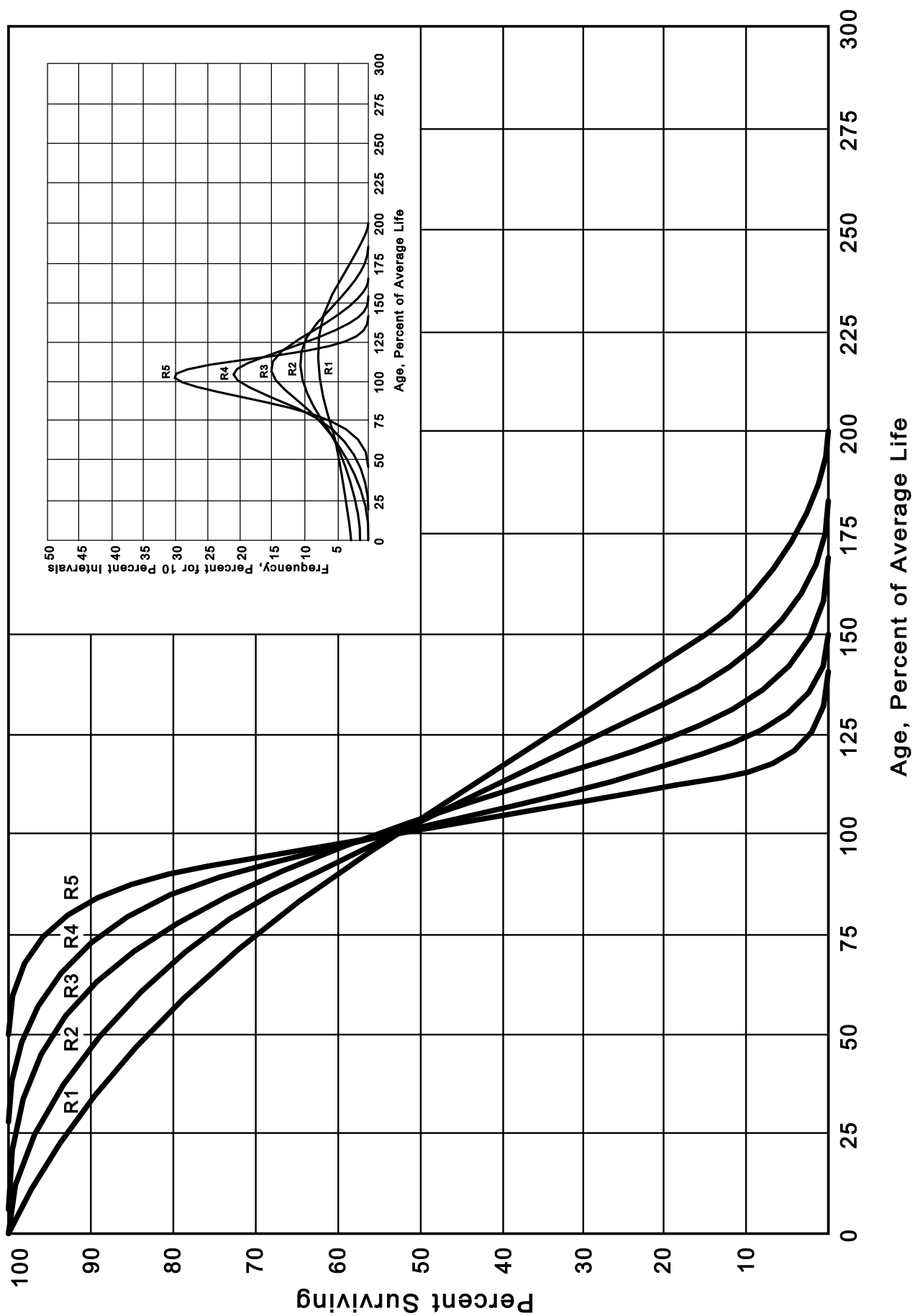


Figure 4. Right Modal or "R" Iowa Type Survivor Curves

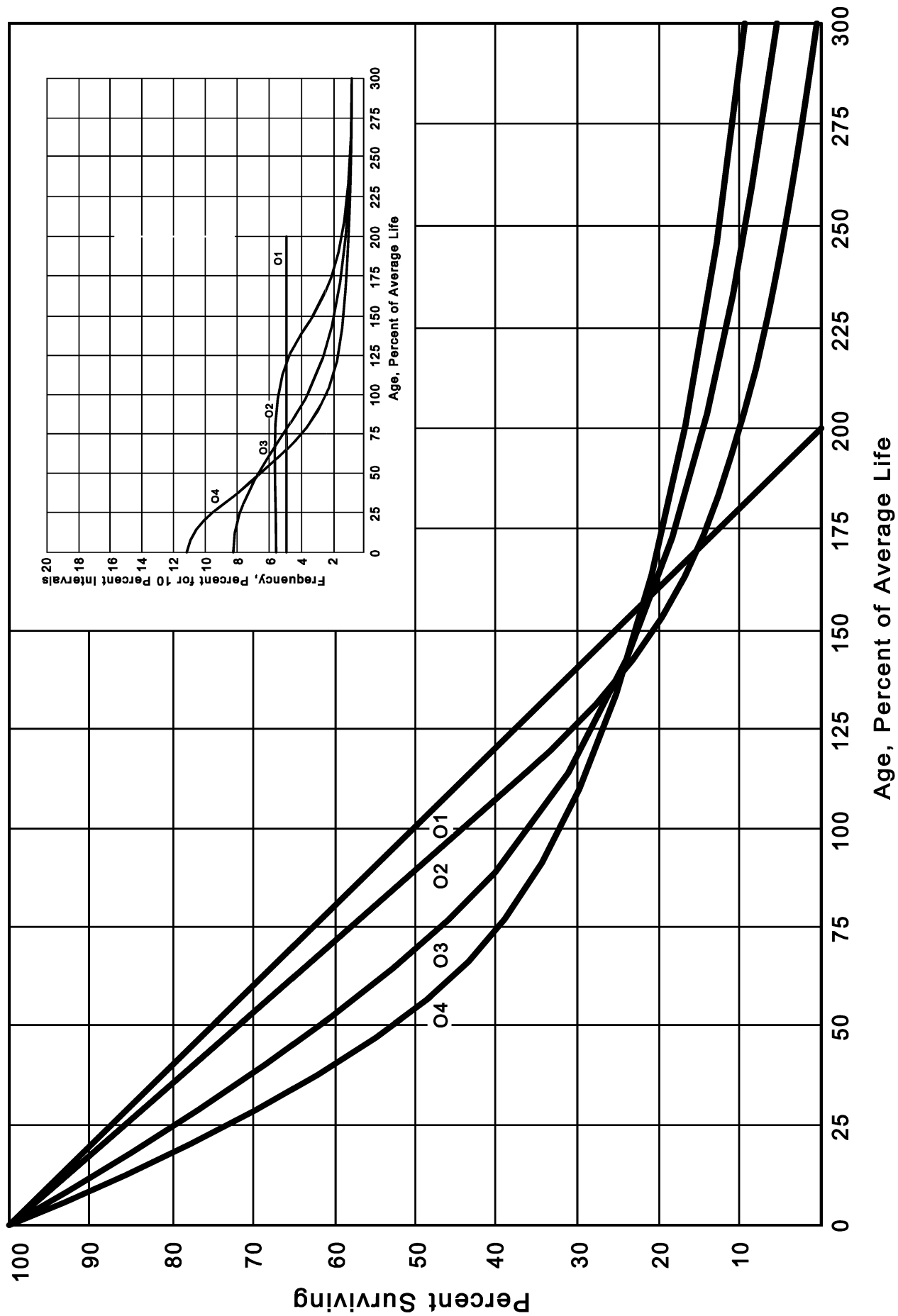


Figure 5. Origin Modal or "O" Iowa Type Survivor Curves

These curve types have also been presented in subsequent Experiment Station bulletins and in the text, "Engineering Valuation and Depreciation."¹ In 1957, Frank V. B. Couch, Jr., an Iowa State College graduate student submitted a thesis presenting his development of the fourth family consisting of the four O type survivor curves.

Retirement Rate Method of Analysis

The retirement rate method is an actuarial method of deriving survivor curves using the average rates at which property of each age group is retired. The method relates to property groups for which aged accounting experience is available and is the method used to develop the original stub survivor curves in this study. The method (also known as the annual rate method) is illustrated through the use of an example in the following text and is also explained in several publications including "Statistical Analyses of Industrial Property Retirements,"² "Engineering Valuation and Depreciation,"³ and "Depreciation Systems."⁴

The average rate of retirement used in the calculation of the percent surviving for the survivor curve (life table) requires two sets of data: first, the property retired during a period of observation, identified by the property's age at retirement; and second, the property exposed to retirement at the beginning of the age intervals during the same period. The period of observation is referred to as the experience band. The band of years which represent the installation dates of the property exposed to retirement during the experience band is referred to as the placement band. An example of the calculations used in the development of a life table follows. The example includes schedules of annual aged property transactions, a schedule of plant exposed to retirement, a life table and illustrations of smoothing the stub survivor curve.

¹Marston, Anson, Robley Winfrey and Jean C. Hempstead. Engineering Valuation and Depreciation, 2nd Edition. New York, McGraw-Hill Book Company. 1953.

²Winfrey, Robley, Statistical Analyses of Industrial Property Retirements. Iowa State College, Engineering Experiment Station, Bulletin 125. 1935.

³Marston, Anson, Robley Winfrey, and Jean C. Hempstead, Supra Note 1.

⁴Wolf, Frank K. and W. Chester Fitch. Depreciation Systems. Iowa State University Press. 1994.

Schedules of Annual Transactions in Plant Records

The property group used to illustrate the retirement rate method is observed for the experience band 2011-2020 for which there were placements during the years 2006-2020. In order to illustrate the summation of the aged data by age interval, the data were compiled in the manner presented in Schedules 1 and 2 on pages II-11 and II-12. In Schedule 1, the year of installation (year placed) and the year of retirement are shown. The age interval during which a retirement occurred is determined from this information. In the example which follows, \$10,000 of the dollars invested in 2006 were retired in 2011. The \$10,000 retirement occurred during the age interval between 4½ and 5½ years on the basis that approximately one-half of the amount of property was installed prior to and subsequent to July 1 of each year. That is, on the average, property installed during a year is placed in service at the midpoint of the year for the purpose of the analysis. All retirements also are stated as occurring at the midpoint of a one-year age interval of time, except the first age interval which encompasses only one-half year.

The total retirements occurring in each age interval in a band are determined by summing the amounts for each transaction year-installation year combination for that age interval. For example, the total of \$143,000 retired for age interval 4½-5½ is the sum of the retirements entered on Schedule 1 immediately above the stair step line drawn on the table beginning with the 2011 retirements of 2006 installations and ending with the 2020 retirements of the 2015 installations. Thus, the total amount of 143 for age interval 4½-5½ equals the sum of:

$$10 + 12 + 13 + 11 + 13 + 13 + 15 + 17 + 19 + 20.$$

SCHEDULE 1. RETIREMENTS FOR EACH YEAR 2011-2020
SUMMARIZED BY AGE INTERVAL

Experience Band 2011-2020		Retirements, Thousands of Dollars										Placement Band 2006-2020	
Year Placed	(1) (1)	During Year										Total During Age Interval (12)	Age Interval (13)
		2011 (2)	2012 (3)	2013 (4)	2014 (5)	2015 (6)	2016 (7)	2017 (8)	2018 (9)	2019 (10)	2020 (11)		
2006	10		11	12	13	14	16	23	24	25	26	26	13½-14½
2007	11	12	12	13	15	16	18	20	21	22	19	44	12½-13½
2008	11	12	12	13	14	16	17	19	21	22	18	64	11½-12½
2009	8	9	9	10	11	11	13	14	15	16	17	83	10½-11½
2010	9	10	10	11	12	13	14	16	17	19	20	93	9½-10½
2011	4	9	9	10	11	12	13	14	15	16	20	105	8½-9½
2012		5	5	11	12	13	14	15	16	18	20	113	7½-8½
2013				6	12	13	15	16	17	19	19	124	6½-7½
2014					6	13	15	16	17	19	19	131	5½-6½
2015						7	14	16	17	19	20	143	4½-5½
2016							8	18	20	22	23	146	3½-4½
2017								9	20	22	25	150	2½-3½
2018									11	23	25	151	1½-2½
2019										11	24	153	½-1½
2020											13	80	0-½
Total	53	68	86	106	128	157	196	231	273	308	1,606		



SCHEDULE 2. OTHER TRANSACTIONS FOR EACH YEAR 2011-2020
SUMMARIZED BY AGE INTERVAL

Experience Band 2011-2020											Placement Band 2006-2020	
Acquisitions, Transfers and Sales, Thousands of Dollars												
Year Placed (1)	During Year										Total During Age Interval (12)	Age Interval (13)
	2011 (2)	2012 (3)	2013 (4)	2014 (5)	2015 (6)	2016 (7)	2017 (8)	2018 (9)	2019 (10)	2020 (11)		
2006	-	-	-	-	-	-	60 ^a	-	-	-	-	13½-14½
2007	-	-	-	-	-	-	-	-	-	-	-	12½-13½
2008	-	-	-	-	-	-	-	-	-	-	-	11½-12½
2009	-	-	-	-	-	-	-	(5) ^b	-	-	60	10½-11½
2010	-	-	-	-	-	-	-	6 ^a	-	-	-	9½-10½
2011	-	-	-	-	-	-	-	-	-	-	(5)	8½-9½
2012	-	-	-	-	-	-	-	-	-	-	6	7½-8½
2013	-	-	-	-	-	-	-	-	-	-	-	6½-7½
2014	-	-	-	-	-	-	-	(12) ^b	-	-	-	5½-6½
2015	-	-	-	-	-	-	-	-	22 ^a	-	-	4½-5½
2016	-	-	-	-	-	-	-	(19) ^b	-	-	10	3½-4½
2017	-	-	-	-	-	-	-	-	-	-	-	2½-3½
2018	-	-	-	-	-	-	-	-	-	(102) ^c	(121)	1½-2½
2019	-	-	-	-	-	-	-	-	-	-	-	½-1½
2020	-	-	-	-	-	-	-	-	-	-	-	0-½
Total	-	-	-	-	-	-	60	(30)	22	(102)	(50)	

^a Transfer Affecting Exposures at Beginning of Year^b Transfer Affecting Exposures at End of Year^c Sale with Continued Use

Parentheses Denote Credit Amount.

In Schedule 2, other transactions which affect the group are recorded in a similar manner. The entries illustrated include transfers and sales. The entries which are credits to the plant account are shown in parentheses. The items recorded on this schedule are not totaled with the retirements, but are used in developing the exposures at the beginning of each age interval.

Schedule of Plant Exposed to Retirement

The development of the amount of plant exposed to retirement at the beginning of each age interval is illustrated in Schedule 3 on page II-14. The surviving plant at the beginning of each year from 2011 through 2020 is recorded by year in the portion of the table headed "Annual Survivors at the Beginning of the Year." The last amount entered in each column is the amount of new plant added to the group during the year. The amounts entered in Schedule 3 for each successive year following the beginning balance or addition are obtained by adding or subtracting the net entries shown on Schedules 1 and 2. For the purpose of determining the plant exposed to retirement, transfers-in are considered as being exposed to retirement in this group at the beginning of the year in which they occurred, and the sales and transfers-out are considered to be removed from the plant exposed to retirement at the beginning of the following year. Thus, the amounts of plant shown at the beginning of each year are the amounts of plant from each placement year considered to be exposed to retirement at the beginning of each successive transaction year. For example, the exposures for the installation year 2016 are calculated in the following manner:

Exposures at age 0	= amount of addition	= \$750,000
Exposures at age ½	= \$750,000 - \$ 8,000	= \$742,000
Exposures at age 1½	= \$742,000 - \$18,000	= \$724,000
Exposures at age 2½	= \$724,000 - \$20,000 - \$19,000	= \$685,000
Exposures at age 3½	= \$685,000 - \$22,000	= \$663,000



SCHEDULE 3. PLANT EXPOSED TO RETIREMENT
JANUARY 1 OF EACH YEAR 2011-2020
SUMMARIZED BY AGE INTERVAL

Experience Band 2011-2020											Placement Band 2006-2020		
Year	Exposures, Thousands of Dollars										Total at Beginning of Age Interval	Age Interval	
	Annual Survivors at the Beginning of the Year												
	2011 (2)	2012 (3)	2013 (4)	2014 (5)	2015 (6)	2016 (7)	2017 (8)	2018 (9)	2019 (10)	2020 (11)			
Placed (1)													
2006	255	245	234	222	209	195	239	216	192	167	167	167	13½-14½
2007	279	268	256	243	228	212	194	174	153	131	131	323	12½-13½
2008	307	296	284	271	257	241	224	205	184	162	162	531	11½-12½
2009	338	330	321	311	300	289	276	262	242	226	226	823	10½-11½
2010	376	367	357	346	334	321	307	297	280	261	261	1,097	9½-10½
2011	420 ^a	416	407	397	386	374	361	347	332	316	316	1,503	8½-9½
2012		460 ^a	455	444	432	419	405	390	374	356	356	1,952	7½-8½
2013			510 ^a	504	492	479	464	448	431	412	412	2,463	6½-7½
2014				580 ^a	574	561	546	530	501	482	482	3,057	5½-6½
2015					660 ^a	653	639	623	628	609	609	3,789	4½-5½
2016						750 ^a	742	724	685	663	663	4,332	3½-4½
2017							850 ^a	841	821	799	799	4,955	2½-3½
2018								960 ^a	949	926	5,719	1½-2½	
2019									1,080 ^a	1,069	6,579	½-1½	
2020										1,220 ^a	7,490	0-½	
Total	1,975	2,382	2,824	3,318	3,872	4,494	5,247	6,017	6,852	7,799	44,780		

^aAdditions during the year

For the entire experience band 2011-2020, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing of the retirements during an age interval (Schedule 1). For example, the figure of 3,789, shown as the total exposures at the beginning of age interval 4½-5½, is obtained by summing:

$$255 + 268 + 284 + 311 + 334 + 374 + 405 + 448 + 501 + 609.$$

Original Life Table

The original life table, illustrated in Schedule 4 on page II-16, is developed from the totals shown on the schedules of retirements and exposures, Schedules 1 and 3, respectively. The exposures at the beginning of the age interval are obtained from the corresponding age interval of the exposure schedule, and the retirements during the age interval are obtained from the corresponding age interval of the retirement schedule. The retirement ratio is the result of dividing the retirements during the age interval by the exposures at the beginning of the age interval. The percent surviving at the beginning of each age interval is derived from survivor ratios, each of which equals one minus the retirement ratio. The percent surviving is developed by starting with 100% at age zero and successively multiplying the percent surviving at the beginning of each interval by the survivor ratio, i.e., one minus the retirement ratio for that age interval. The calculations necessary to determine the percent surviving at age 5½ are as follows:

Percent surviving at age 4½	=	88.15	
Exposures at age 4½	=	3,789,000	
Retirements from age 4½ to 5½	=	143,000	
Retirement Ratio	=	143,000 ÷ 3,789,000	= 0.0377
Survivor Ratio	=	1.000 - 0.0377	= 0.9623
Percent surviving at age 5½	=	(88.15) x (0.9623)	= 84.83

The totals of the exposures and retirements (columns 2 and 3) are shown for the purpose of checking with the respective totals in Schedules 1 and 3. The ratio of the total retirements to the total exposures, other than for each age interval, is meaningless.

SCHEDULE 4. ORIGINAL LIFE TABLE
CALCULATED BY THE RETIREMENT RATE METHOD

Experience Band 2011-2020

Placement Band 2006-2020

(Exposure and Retirement Amounts are in Thousands of Dollars)

Age at Beginning of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retirement Ratio	Survivor Ratio	Percent Surviving at Beginning of Age Interval
(1)	(2)	(3)	(4)	(5)	(6)
0.0	7,490	80	0.0107	0.9893	100.00
0.5	6,579	153	0.0233	0.9767	98.93
1.5	5,719	151	0.0264	0.9736	96.62
2.5	4,955	150	0.0303	0.9697	94.07
3.5	4,332	146	0.0337	0.9663	91.22
4.5	3,789	143	0.0377	0.9623	88.15
5.5	3,057	131	0.0429	0.9571	84.83
6.5	2,463	124	0.0503	0.9497	81.19
7.5	1,952	113	0.0579	0.9421	77.11
8.5	1,503	105	0.0699	0.9301	72.65
9.5	1,097	93	0.0848	0.9152	67.57
10.5	823	83	0.1009	0.8991	61.84
11.5	531	64	0.1205	0.8795	55.60
12.5	323	44	0.1362	0.8638	48.90
13.5	<u>167</u>	<u>26</u>	0.1557	0.8443	42.24
					35.66
Total	<u>44,780</u>	<u>1,606</u>			

Column 2 from Schedule 3, Column 12, Plant Exposed to Retirement.

Column 3 from Schedule 1, Column 12, Retirements for Each Year.

Column 4 = Column 3 Divided by Column 2.

Column 5 = 1.0000 Minus Column 4.

Column 6 = Column 5 Multiplied by Column 6 as of the Preceding Age Interval.

The original survivor curve is plotted from the original life table (column 6, Schedule 4). When the curve terminates at a percent surviving greater than zero, it is called a stub survivor curve. Survivor curves developed from retirement rate studies generally are stub curves.

Smoothing the Original Survivor Curve

The smoothing of the original survivor curve eliminates any irregularities and serves as the basis for the preliminary extrapolation to zero percent surviving of the original stub curve. Even if the original survivor curve is complete from 100% to zero percent, it is desirable to eliminate any irregularities, as there is still an extrapolation for the vintages which have not yet lived to the age at which the curve reaches zero percent. In this study, the smoothing of the original curve with established type curves was used to eliminate irregularities in the original curve.

The Iowa type curves are used in this study to smooth those original stub curves which are expressed as percents surviving at ages in years. Each original survivor curve was compared to the Iowa curves using visual and mathematical matching in order to determine the better fitting smooth curves. In Figures 6, 7, and 8, the original curve developed in Schedule 4 is compared with the L, S, and R Iowa type curves which most nearly fit the original survivor curve. In Figure 6, the L1 curve with an average life between 12 and 13 years appears to be the best fit. In Figure 7, the S0 type curve with a 12-year average life appears to be the best fit and appears to be better than the L1 fitting. In Figure 8, the R1 type curve with a 12-year average life appears to be the best fit and appears to be better than either the L1 or the S0.

In Figure 9, the three fittings, 12-L1, 12-S0 and 12-R1 are drawn for comparison purposes. It is probable that the 12-R1 Iowa curve would be selected as the most representative of the plotted survivor characteristics of the group.

FIGURE 6. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

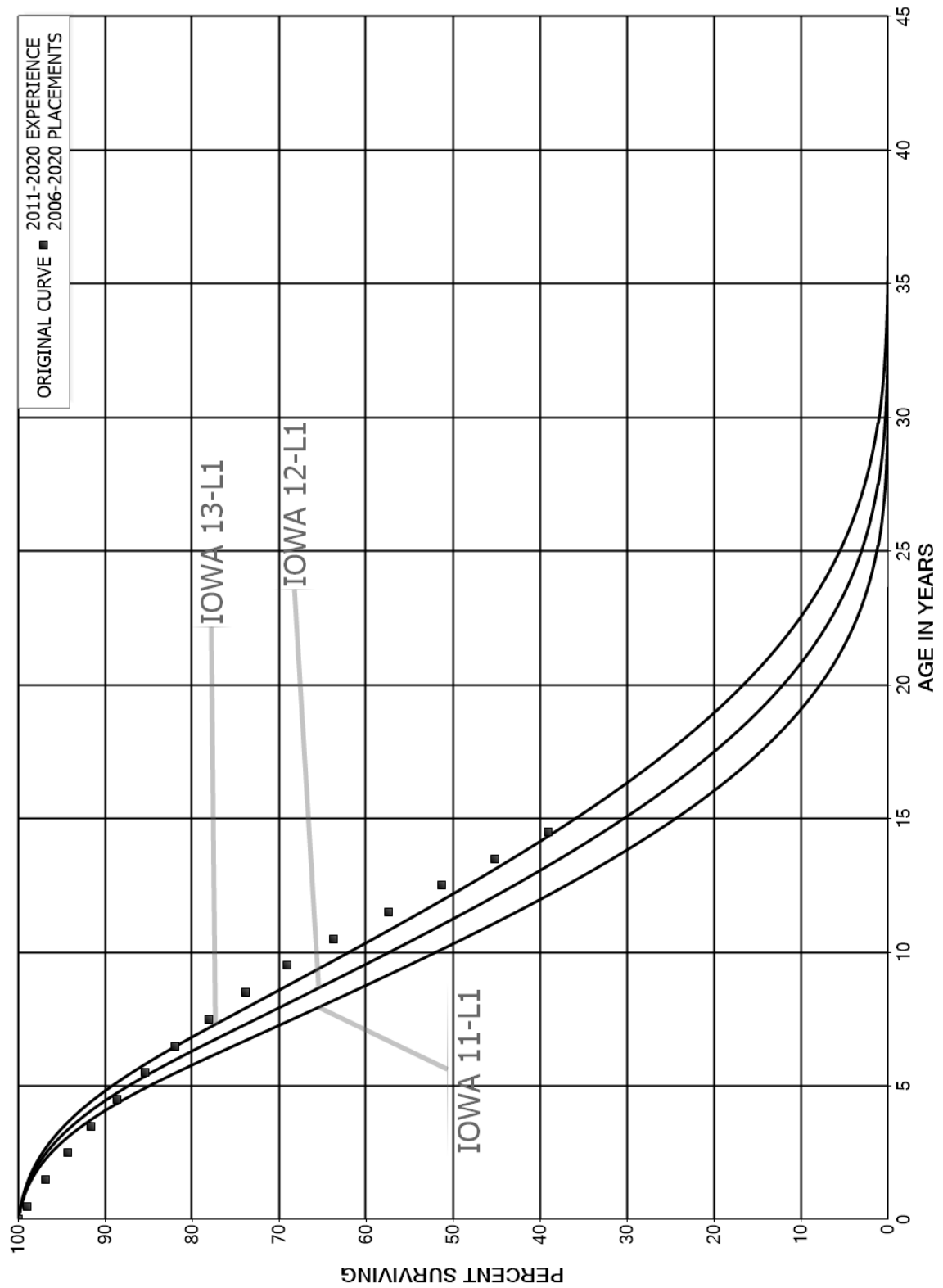


FIGURE 7. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN S0 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

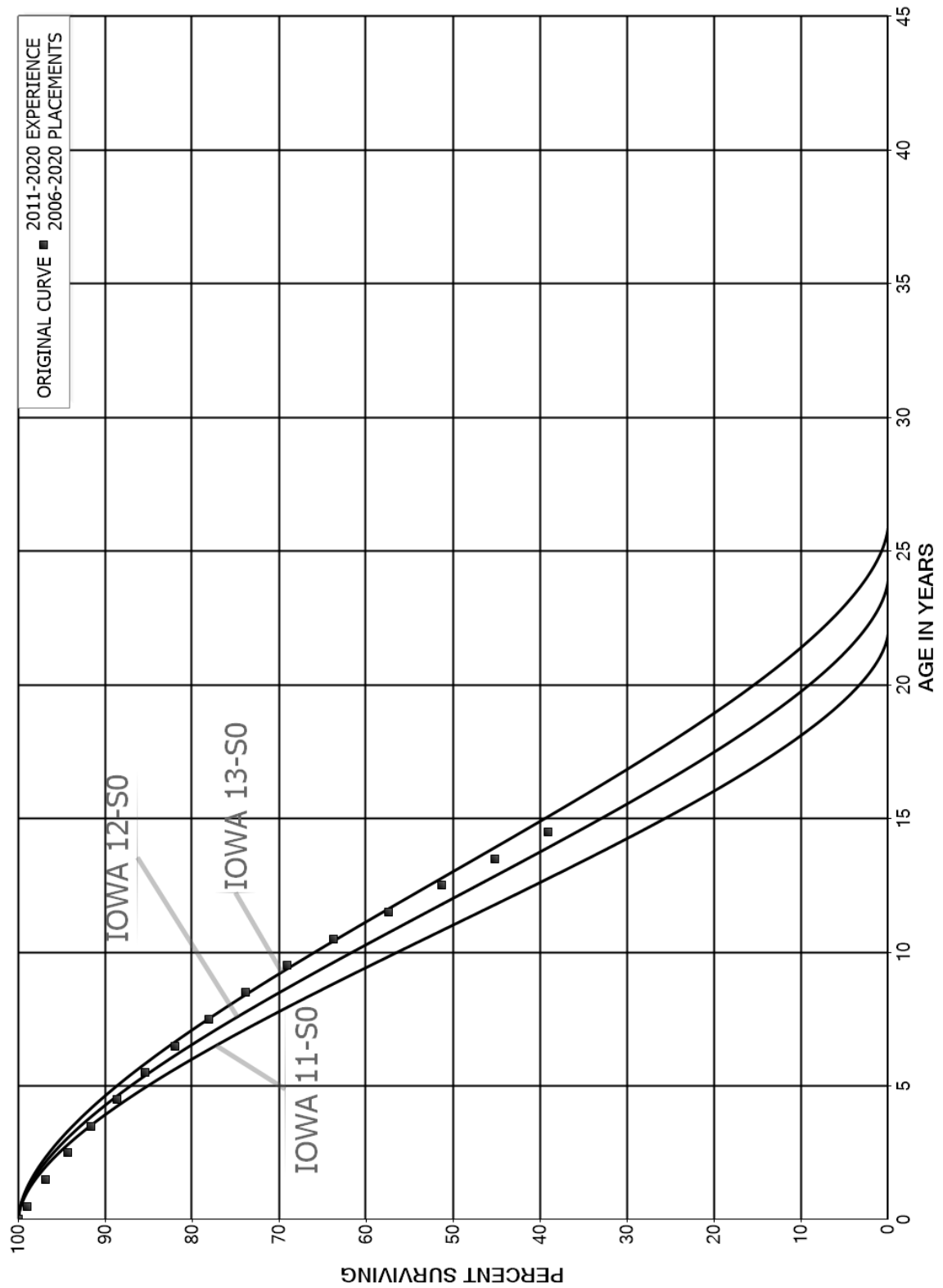


FIGURE 8. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN R1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

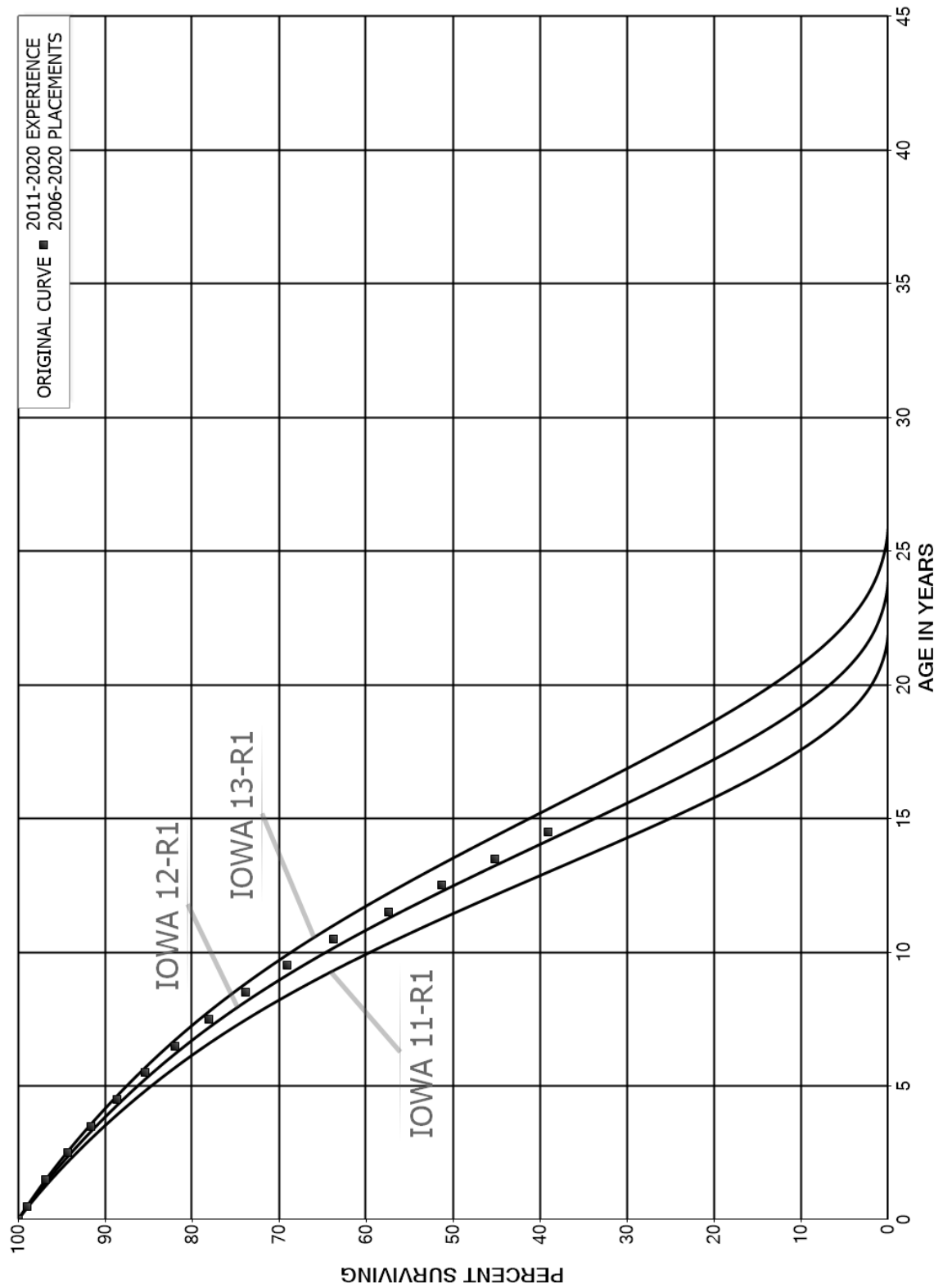
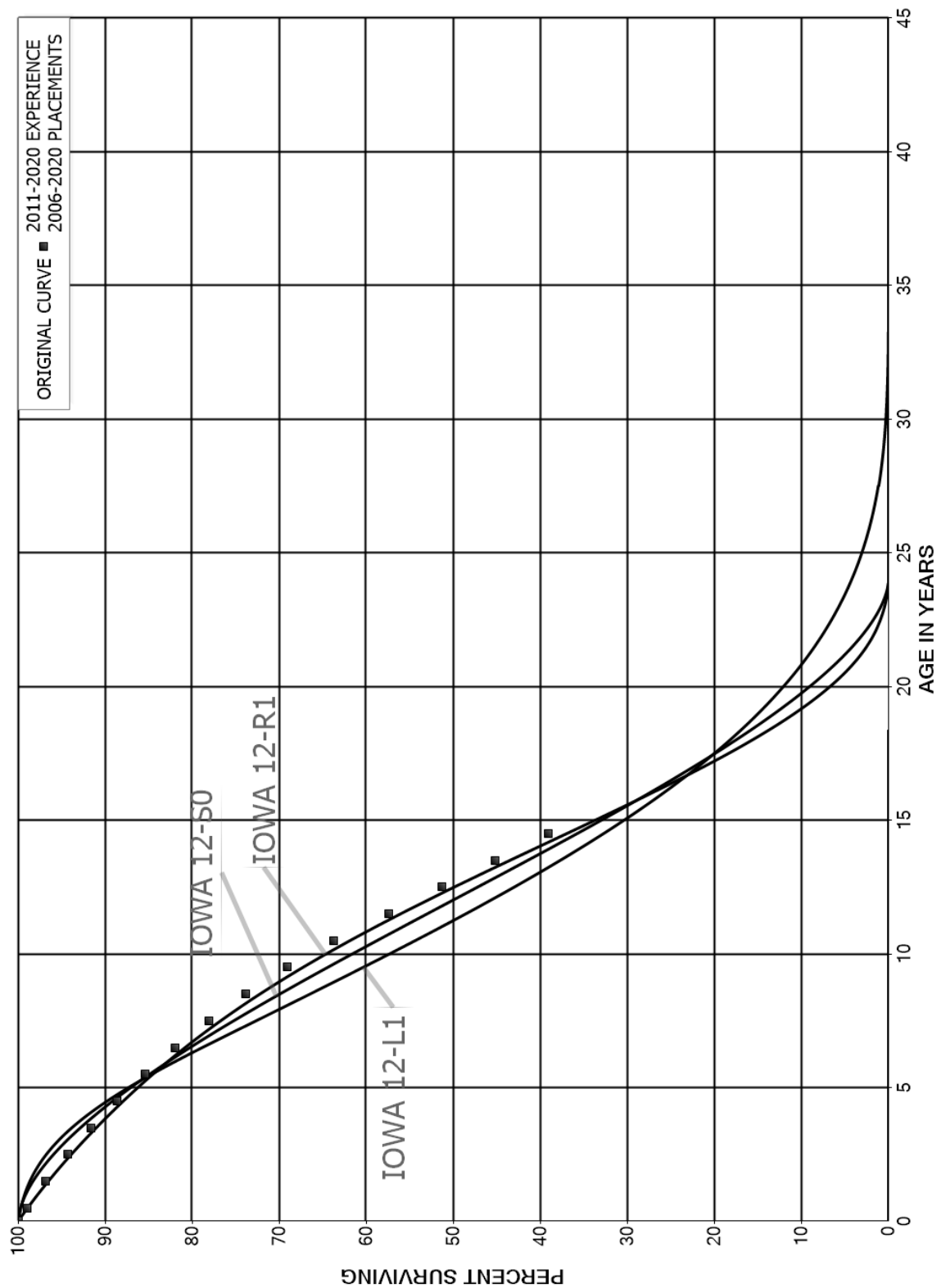


FIGURE 9. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1, S0 AND R1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES



PART III. SERVICE LIFE CONSIDERATIONS

PART III. SERVICE LIFE CONSIDERATIONS

Judgments

The survivor curve estimates were based on judgment which considered factors including statistical analyses of retirements, Company policies and outlook as determined during discussions with management, and survivor curve estimates from previous studies of the other Aqua Pennsylvania wastewater systems. For depreciable groups which consist of numerous similar items of property, the distribution of the lives of the units in the group was judged on the basis of an average survival pattern for the entire group.

The amortization periods selected for general plant Accounts , 393 and 396 are discussed in the section, “Amortization of General Plant Accounts.”

PART IV. CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

PART IV. CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

BOOK RESERVE

The book reserve as of March 31, 2021, is the result of a bringforward of the book reserves established by the Commission for the Cheltenham wastewater operations at the time of acquisition. The projected book reserve as of March 31, 2022, is a bringforward of the March 31, 2021 book reserve based on projected accruals, retirements, cost of removal, salvage and other credits.

CALCULATION OF DEPRECIATION

The annual depreciation accruals as of March 31, 2022, are based on the straight line remaining life method and the equal life group procedure. For the purpose of calculating the remaining life accruals as of March 31, 2022, the book reserve is allocated among vintages in proportion to the calculated accrued depreciation as of March 31, 2022.

Group Depreciation Procedures

A group procedure for depreciation is appropriate when considering more than a single item of property. Normally, the items within a group do not have identical service lives but have lives that are dispersed over a range of time.

In the average service life procedure, the rate of annual depreciation is based on the average life or average remaining life of the group, and this rate is applied to the surviving balances of the group's cost. A characteristic of this procedure is that the cost of plant retired prior to average life is not fully recouped at the time of retirement, whereas

the cost of plant retired subsequent to average life is more than fully recouped. Over the entire life cycle, the portion of cost not recouped prior to average life is balanced by the cost recouped subsequent to average life.

In the equal life group procedure, the property group is subdivided according to service life. That is, each equal life group includes that portion of the property which experiences the life of that specific group. The relative size of each equal life group is determined from the property's life dispersion curve. This procedure eliminates the need to base depreciation on average lives, inasmuch as each group is equivalent to a unit having a single life. The full costs of short-lived units are accrued during their lives, leaving no deferral of accruals required to be added to the annual costs associated with long-lived units. The calculated depreciation for the property group is the summation of the calculated depreciation based on the service life of each equal life group.

Remaining Life Annual Accruals

For the purpose of calculating remaining life accrual rates as of March 31, 2022, the estimated book depreciation reserve for each plant account is allocated among vintages in proportion to the calculated accrued depreciation for the account. Explanations of remaining life accruals and calculated accrued depreciation based on the equal life group procedure follow. The detailed calculations are set forth in the Results of Study section of the report.

Equal Life Group Procedure

In the equal life group procedure, the remaining life annual accrual for each vintage is determined by dividing future book accruals (original cost less book reserve) by the composite remaining life for the surviving original cost of that vintage. The composite remaining life is derived by compositing the individual equal life group remaining lives in accordance with the following equation:

$$\text{Composite Remaining Life} = \frac{\sum \left(\frac{\text{Book Cost}}{\text{Life}} \times \text{Remaining Life} \right)}{\sum \frac{\text{Book Cost}}{\text{Life}}}.$$

The book costs and lives of the several equal life groups which are summed in the foregoing equation are defined by the estimated survivor curve.

Inasmuch as book cost divided by life equals the whole life annual accrual, the foregoing equation reduces to the following form:

$$\text{Composite Remaining Life} = \frac{\sum \text{Whole Life Future Accruals}}{\sum \text{Whole Life Annual Accruals}}$$

or

$$\text{Composite Remaining Life} = \frac{\sum \text{Book Cost} - \text{Calc. Reserve}}{\sum \text{Whole Life Annual Accrual}}.$$

The annual accrual rate for each account is equal to the sum of the remaining life annual accruals for all vintages divided by the account's total original cost. The account's "composite remaining life" is calculated by dividing the sum of the future book accruals for all vintages by the sum of the remaining life annual accruals for all vintages.

The calculated accrued depreciation in the equal life group procedure also represents that portion of depreciable cost which will not be allocated to expense through future accruals. However, the calculation is based at the equal life group level rather than the vintage group level and does not require the use of averages. The equal life group accrued depreciation ratio is calculated as follows:

$$Ratio = 1 - \left(\frac{Remaining\ Life}{Service\ Life} \right)$$

Inasmuch as service life minus remaining life equals age, when averages are not employed, the foregoing equation reduces to:

$$Ratio = \left(\frac{Age}{Service\ Life} \right)$$

AMORTIZATION OF GENERAL PLANT ACCOUNTS

In order to use a more efficient and cost effective accounting process for equipment recorded in general plant Accounts 393 and 396; amounts capitalized in these accounts are amortized rather than depreciated. Amortization as defined in the Uniform System of Accounts is the gradual extinguishment of an amount in an account by distributing such amount over a fixed period, over the life of the asset or liability to which it applies, or over the period during which it is anticipated the benefit will be realized.

The primary reasons for the amortization of certain general plant accounts is that the effort required to unitize additions, periodically inventory equipment and determine amounts to be retired for equipment recorded in these accounts is disproportionate to the original cost of the equipment when compared to other wastewater plant accounts.

Accounting for such equipment using an amortization concept consists of capitalization of amounts to these accounts based on the same criteria as used previously

under depreciation accounting, amortization of the asset over a fixed period, retirement of the equipment at the end of the amortization period and recognition of any net salvage related to disposition of equipment in these accounts as a gain or loss. For equipment in these accounts that was placed in service prior to implementation of amortization accounting, the net book value by vintage amortized over the remaining amortization period specified for each account and the original cost will be retired at the end of this period.

The amortization periods selected for each account or subaccount are based on a review of the existing depreciation rates for the accounts, typical service lives used for each type of equipment and a consideration of the period during which it is anticipated that most of the benefit of the equipment will be realized. The amortization periods are as follows:

<u>Account Number</u>	<u>Description</u>	<u>Amortization Period, Years</u>
393	Tools, Shop and Garage Equipment	20
396	Communication Equipment	
	General	15
	SCADA	10

NET SALVAGE

Experienced net salvage is incorporated in the results of the study as it was reported on the Company's books and records for the period January 1, 2017 through March 31, 2021 and estimated for the period April 1, 2021 through December 31, 2021. The calculation of the amortization is shown in Table 4 on page V-7. The amounts of

gross salvage and removal cost by account for each year are set forth in the section beginning on page VIII-2.

Net salvage is presented in this manner to determine the amount of net salvage to be amortized to the cost of service for ratemaking purposes. In order to be consistent with this manner of recognizing net salvage, no adjustments for net salvage were made to the annual depreciation calculated for the individual accounts.

PART V. RESULTS OF STUDY

PART V. RESULTS OF STUDY

DESCRIPTION OF SUMMARY TABULATIONS

Table 1 summarizes the results of the depreciation study which sets forth, by depreciable group, the estimated survivor curve, calculated annual accruals and book reserve related to net original cost and the annual amortization of net salvage. Table 2 presents the bringforward to March 31, 2022 of the book reserve as of March 31, 2021. Table 3 sets forth the calculation of estimated depreciation accruals for the twelve months ended March 31, 2022. Table 4 presents the amortization of experienced and estimated net salvage, by account, based on the five-year period, 2017-2021. The total amortization amount is incorporated in the total annual accrual in Table 1.

DESCRIPTION OF DETAILED TABULATIONS

Supporting statistical data for the estimates of average service lives and survivor curves, the annual depreciation calculations, and gross salvage and cost of removal for the years 2017-2021 are presented in three sections.

The section beginning on page VI-2 sets forth, for each depreciable group analyzed by the retirement rate method, a chart depicting the original and estimated survivor curves followed by a tabular presentation of the original life table plotted on the chart. A cumulative summary, by year installed, for utility plant and the supporting data for the original cost depreciation calculations are presented in the section beginning on page VII-3. The tabulations of experienced and estimated net salvage, by year and account for the five-year period 2017-2021, are presented in the section beginning on page VIII-2.

In the first section, the survivor curves estimated for the depreciable groups are shown as dark smooth curves on the charts. Each smooth survivor curve is denoted by a numeral followed by the type curve designation. The numeral used is the average life derived from the entire curve from 100 percent to zero percent surviving. In cases where only a segment of the estimated curve is used in the depreciation calculation, the numeral used for identification purposes is not a designation of the average life of the group. The titles of the charts indicate the group, the symbol used to plot the points of the original life table, and the experience and placement bands of the life tables which were plotted. The experience band indicates the range of years for which the retirements were used to develop the stub survivor curve. The placements indicate, for the related experience band, the range of years of installations which appear in the experience.

The tables of the calculated annual depreciation related to original cost are presented in account sequence in the second section and indicate the estimated average survivor curves used in the calculations. The tables set forth, for each installation year, the original cost, calculated accrued depreciation, allocated book reserve, remaining life expectancy, and the calculated annual accrual.

Detailed tabulations setting forth the cost of removal, gross salvage and net salvage amounts, by account and year, are presented in the third section. The net salvage amounts, by account and year, are carried forward to Table 4, which presents the five-year amortization of net salvage.

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WASTEWATER PLANT AS OF MARCH 31, 2022

DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	ORIGINAL COST AS OF MARCH 31, 2022 (3)	BOOK DEPRECIATION RESERVE (4)	FUTURE ACCRUALS (5)	CALCULATED ANNUAL ACCRUAL AMOUNT (6)	COMPOSITE REMAINING LIFE (8)=(5)/(6)
INTANGIBLE PLANT						
351.00 ORGANIZATION	NONDEPR.	617,031.21				
TOTAL INTANGIBLE PLANT		617,031.21				
NONDEPRECIABLE PLANT						
353.20 LAND AND LAND RIGHTS - COLLECTION	NONDEPR.	9,552.64				
TOTAL NONDEPRECIABLE PLANT		9,552.64				
DEPRECIABLE PLANT						
361.00 COLLECTION MAINS - GRAVITY	75-R2.5	56,070,525.14	11,827,696	44,242,830	919,415	48.1
363.00 SERVICES	70-R4	3,427,015.36	2,818,733	608,283	57,517	10.6
391.00 TRANSPORTATION EQUIPMENT	15-L3	281,820.00	247,818	34,002	4,288	7.9
393.00 TOOLS, SHOP AND GARAGE EQUIPMENT	20-SQ	1,424.36	112	1,312	72	18.2
396.00 COMMUNICATION EQUIPMENT						
GENERAL	15-SQ	7,431.25	443	6,988	500	14.0
SCADA	10-SQ	25,538.51	1,277	24,262	2,579	9.4
TOTAL ACCOUNT 396		32,969.76	1,720	31,250	3,079	
TOTAL DEPRECIABLE PLANT		59,813,754.62	14,896,079	44,917,677	984,371	
TOTAL WASTEWATER PLANT IN SERVICE		60,440,338.47	14,896,079	44,917,677	984,371	
CUSTOMERS' ADVANCES AND CONTRIBUTIONS IN AID OF CONSTRUCTION						
DEPRECIABLE PLANT						
361.00 COLLECTION MAINS - GRAVITY	75-R2.5	96,280.00	857	95,423	1,736	55.0
363.00 SERVICES	70-R4	6,000.00	46	5,954	92	64.7
TOTAL CUSTOMERS' ADVANCES AND CONTRIBUTIONS IN AID OF CONSTRUCTION		102,280.00	903	101,377	1,828	
AMORTIZATION OF NET SALVAGE					553	
TOTAL WASTEWATER PLANT		60,338,058.47	14,895,176	44,816,300	983,096	

* ACCRUALS CALCULATED FOR EACH ASSET BY THE COMPANY'S PROPERTY RECORD SYSTEM USING THE AMORTIZATION PERIOD SET FORTH IN COLUMN 2.

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

TABLE 2. BRINGFORWARD TO MARCH 31, 2022 OF THE BOOK RESERVE AS OF MARCH 31, 2021

ACCOUNT (1)	BOOK RESERVE AS OF MARCH 31, 2021 (2)	+	DEPRECIATION ACCUALS (3)	+	AMORTIZATION OF NET SALVAGE (4)	-	PROJECTED RETIREMENTS (5)	+	PROJECTED GROSS SALVAGE (6)	-	PROJECTED COST OF REMOVAL (7)	=	BOOK RESERVE AS OF MARCH 31, 2022 (8)
361.00	11,097,347		912,114		50		180,486				1,329		11,827,696
363.00	2,762,001		61,356		238		3,998				865		2,818,733
391.00	243,421		4,396										247,818
393.00	41		71										112
396.00	100		343										443
396.70	0		1,277										1,277
SUBTOTAL	14,102,911		979,558		288		184,483		0		2,194		14,896,079
LESS:													
CUSTOMERS' ADVANCES AND CONTRIBUTIONS													
361.00	0		(857)										(857)
363.00	0		(46)										(46)
SUBTOTAL	0		(903)		0		0		0		0		(903)
TOTAL	14,102,911		978,655		288		184,483		0		2,194		14,895,176



AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

TABLE 3. CALCULATION OF DEPRECIATION ACCRUALS FOR THE TWELVE MONTHS ENDED MARCH 31, 2022

ACCOUNT (1)	ORIGINAL COST AS OF MARCH 31, 2021 (2)	ORIGINAL COST AS OF MARCH 31, 2022 (3)	ANNUAL ACCRUAL RATE (4)	ANNUAL ACCRUAL AMOUNT (5)
UTILITY PLANT IN SERVICE				
361.00 COLLECTION MAINS - GRAVITY	53,822,773.35	56,070,525.14	1.66	912,114
363.00 SERVICES	3,315,369.83	3,427,015.36	1.82	61,356
391.00 TRANSPORTATION EQUIPMENT	281,820.00	281,820.00	1.56	4,396
393.00 TOOLS, SHOP AND GARAGE EQUIPMENT	1,424.36	1,424.36	5.00 *	71
396.00 COMMUNICATION EQUIPMENT - GENERAL	2,856.24	7,431.25	6.67 *	343
396.70 COMMUNICATION EQUIPMENT - SCADA	0.00	25,538.51	10.00 *	1,277
TOTAL PLANT IN SERVICE	57,424,243.78	59,813,754.62		979,558
CUSTOMERS' ADVANCES AND CONTRIBUTIONS IN AID OF CONSTRUCTION				
361.20 COLLECTION MAINS - GRAVITY	0.00	96,280.00	1.78 **	857
363.20 SERVICES	0.00	6,000.00	1.53 **	46
TOTAL CUSTOMERS' ADVANCES AND CONTRIBUTIONS IN AID OF CONSTRUCTION	0.00	102,280.00		903
TOTAL PLANT IN SERVICE	57,424,243.78	59,711,474.62		978,655
* ACCRUAL RATE BASED ON AMORTIZATION PERIOD				
** ACCRUAL RATE BASED ON LIMERICK HTY CALCULATION				

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

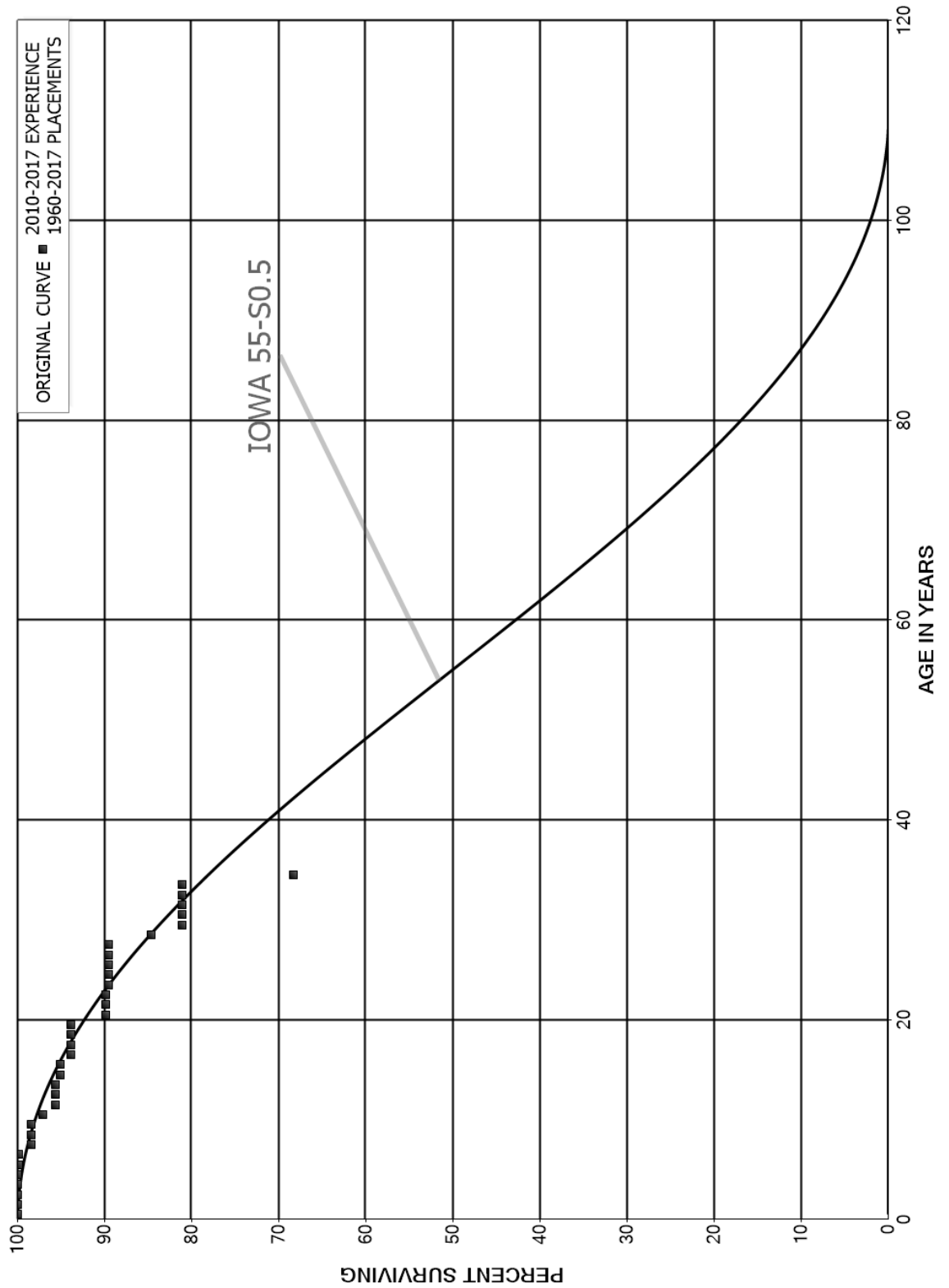
TABLE 4. AMORTIZATION OF EXPERIENCED AND ESTIMATED NET SALVAGE

ACCOUNT (1)	2017			2018			2019			2020			2021			NET SALVAGE (12)*	SALVAGE ACCURAL (13)=(12)/5
	GROSS SALVAGE (2)	COST OF REMOVAL (3)	+	GROSS SALVAGE (4)	COST OF REMOVAL (5)	+	GROSS SALVAGE (6)	COST OF REMOVAL (7)	+	GROSS SALVAGE (8)	COST OF REMOVAL (9)	+	GROSS SALVAGE (10)	COST OF REMOVAL (11)	=		
361.00																	(199)
363.00											992.67			776.20		(1,768.87)	(354)
TOTAL	-	-	-	-	-	-	-	-	-	-	992.67	-	-	1,773.25	-	(2,765.92)	(553)

* COLUMN (12) EQUALS THE SUMMATION OF COLUMNS (2) THROUGH (11).

PART VI. SERVICE LIFE STATISTICS

AQUA PENNSYLVANIA, INC.
 ALL OTHER WASTEWATER OPERATIONS
 ACCOUNT 354.2 STRUCTURES AND IMPROVEMENTS - COLLECTION
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 354.2 STRUCTURES AND IMPROVEMENTS - COLLECTION

ORIGINAL LIFE TABLE

PLACEMENT BAND 1960-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1,257,381		0.0000	1.0000	100.00
0.5	2,098,467		0.0000	1.0000	100.00
1.5	1,878,564		0.0000	1.0000	100.00
2.5	1,878,564		0.0000	1.0000	100.00
3.5	3,297,881		0.0000	1.0000	100.00
4.5	3,313,109	5,669	0.0017	0.9983	100.00
5.5	3,307,440		0.0000	1.0000	99.83
6.5	3,293,581	45,724	0.0139	0.9861	99.83
7.5	2,386,087		0.0000	1.0000	98.44
8.5	2,456,269		0.0000	1.0000	98.44
9.5	2,617,044	36,966	0.0141	0.9859	98.44
10.5	1,202,343	18,469	0.0154	0.9846	97.05
11.5	1,247,585		0.0000	1.0000	95.56
12.5	1,267,560		0.0000	1.0000	95.56
13.5	1,267,560	6,016	0.0047	0.9953	95.56
14.5	1,306,451	536	0.0004	0.9996	95.11
15.5	1,293,169	16,982	0.0131	0.9869	95.07
16.5	301,494		0.0000	1.0000	93.82
17.5	171,166		0.0000	1.0000	93.82
18.5	170,707		0.0000	1.0000	93.82
19.5	106,996	4,502	0.0421	0.9579	93.82
20.5	75,352		0.0000	1.0000	89.87
21.5	175,864		0.0000	1.0000	89.87
22.5	130,958	517	0.0039	0.9961	89.87
23.5	130,441		0.0000	1.0000	89.52
24.5	130,441		0.0000	1.0000	89.52
25.5	99,995		0.0000	1.0000	89.52
26.5	112,249		0.0000	1.0000	89.52
27.5	112,249	6,192	0.0552	0.9448	89.52
28.5	106,058	4,413	0.0416	0.9584	84.58
29.5	12,254		0.0000	1.0000	81.06
30.5	12,254		0.0000	1.0000	81.06
31.5	12,254		0.0000	1.0000	81.06
32.5	12,254		0.0000	1.0000	81.06
33.5	12,254	1,937	0.1581	0.8419	81.06
34.5					68.25
35.5					
36.5					
37.5					
38.5					

AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 354.2 STRUCTURES AND IMPROVEMENTS - COLLECTION

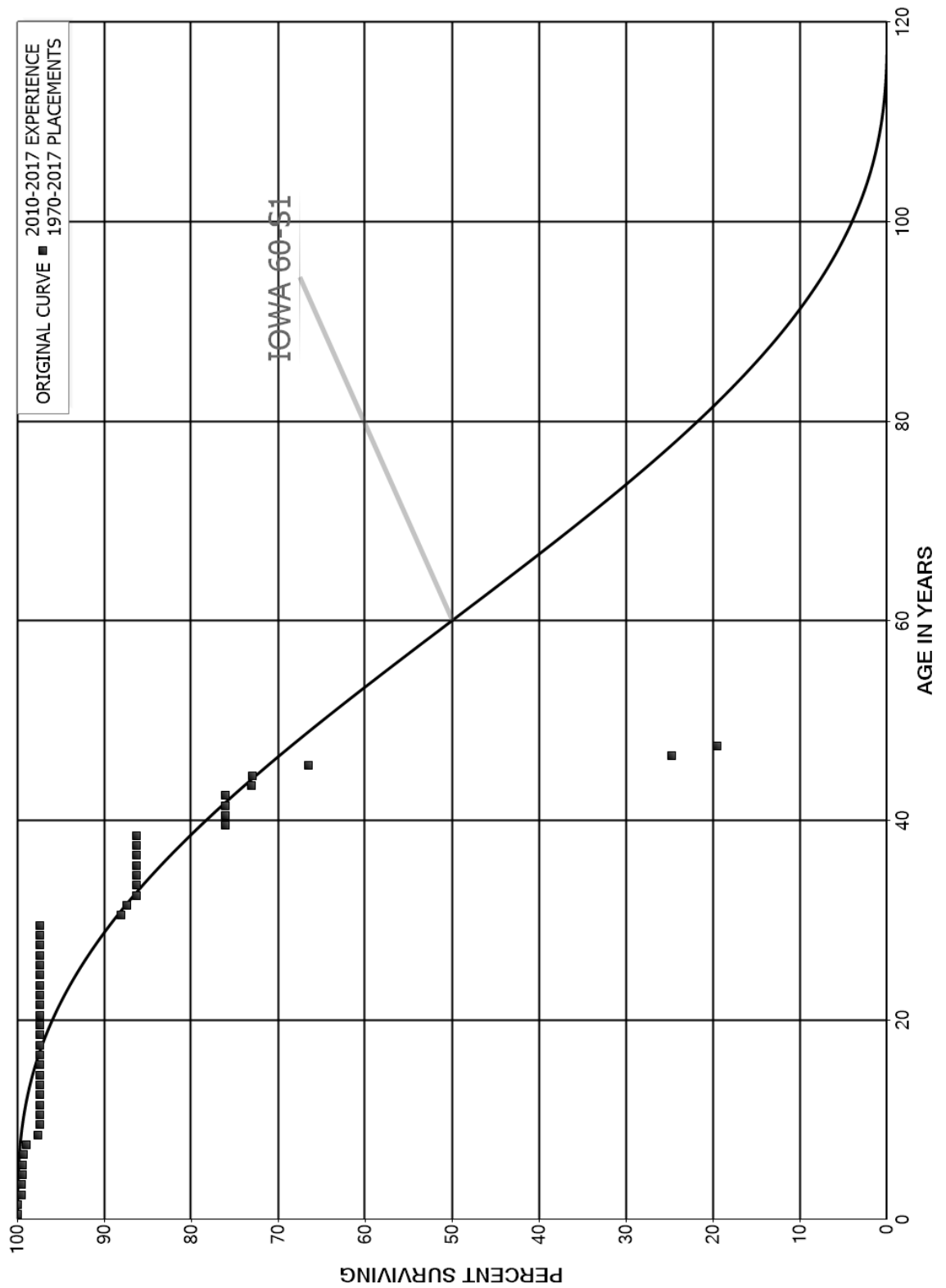
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1960-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5					
40.5					
41.5					
42.5					
43.5					
44.5					
45.5					
46.5					
47.5					
48.5					
49.5	9,083		0.0000		
50.5	9,083		0.0000		
51.5	9,083		0.0000		
52.5	9,083		0.0000		
53.5	9,083	880	0.0969		
54.5	8,203	2,151	0.2623		
55.5	6,051		0.0000		
56.5	6,051	1,192	0.1970		
57.5					

AQUA PENNSYLVANIA, INC.
 ALL OTHER WASTEWATER OPERATIONS
 ACCOUNT 354.3 STRUCTURES AND IMPROVEMENTS - PUMPING
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 354.3 STRUCTURES AND IMPROVEMENTS - PUMPING

ORIGINAL LIFE TABLE

PLACEMENT BAND 1970-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1,946,035		0.0000	1.0000	100.00
0.5	1,798,169	812	0.0005	0.9995	100.00
1.5	1,881,083	8,566	0.0046	0.9954	99.95
2.5	2,256,892		0.0000	1.0000	99.50
3.5	2,685,113	2,709	0.0010	0.9990	99.50
4.5	1,816,131		0.0000	1.0000	99.40
5.5	2,118,481	1,768	0.0008	0.9992	99.40
6.5	2,161,928	6,716	0.0031	0.9969	99.32
7.5	2,144,545	29,171	0.0136	0.9864	99.01
8.5	1,532,146	4,094	0.0027	0.9973	97.66
9.5	1,391,007		0.0000	1.0000	97.40
10.5	881,845		0.0000	1.0000	97.40
11.5	557,791		0.0000	1.0000	97.40
12.5	528,989		0.0000	1.0000	97.40
13.5	214,927		0.0000	1.0000	97.40
14.5	38,152		0.0000	1.0000	97.40
15.5	38,152		0.0000	1.0000	97.40
16.5	38,152		0.0000	1.0000	97.40
17.5	38,152		0.0000	1.0000	97.40
18.5	38,152		0.0000	1.0000	97.40
19.5	42,388		0.0000	1.0000	97.40
20.5	42,388		0.0000	1.0000	97.40
21.5	42,388		0.0000	1.0000	97.40
22.5	11,201		0.0000	1.0000	97.40
23.5	11,201		0.0000	1.0000	97.40
24.5	29,801		0.0000	1.0000	97.40
25.5	34,264		0.0000	1.0000	97.40
26.5	102,646		0.0000	1.0000	97.40
27.5	107,815		0.0000	1.0000	97.40
28.5	118,814		0.0000	1.0000	97.40
29.5	118,814	11,431	0.0962	0.9038	97.40
30.5	107,383	811	0.0075	0.9925	88.03
31.5	192,940	2,409	0.0125	0.9875	87.37
32.5	211,931		0.0000	1.0000	86.27
33.5	207,468		0.0000	1.0000	86.27
34.5	161,528		0.0000	1.0000	86.27
35.5	145,158		0.0000	1.0000	86.27
36.5	53,415		0.0000	1.0000	86.27
37.5	16,911		0.0000	1.0000	86.27
38.5	16,911	2,002	0.1184	0.8816	86.27

AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 354.3 STRUCTURES AND IMPROVEMENTS - PUMPING

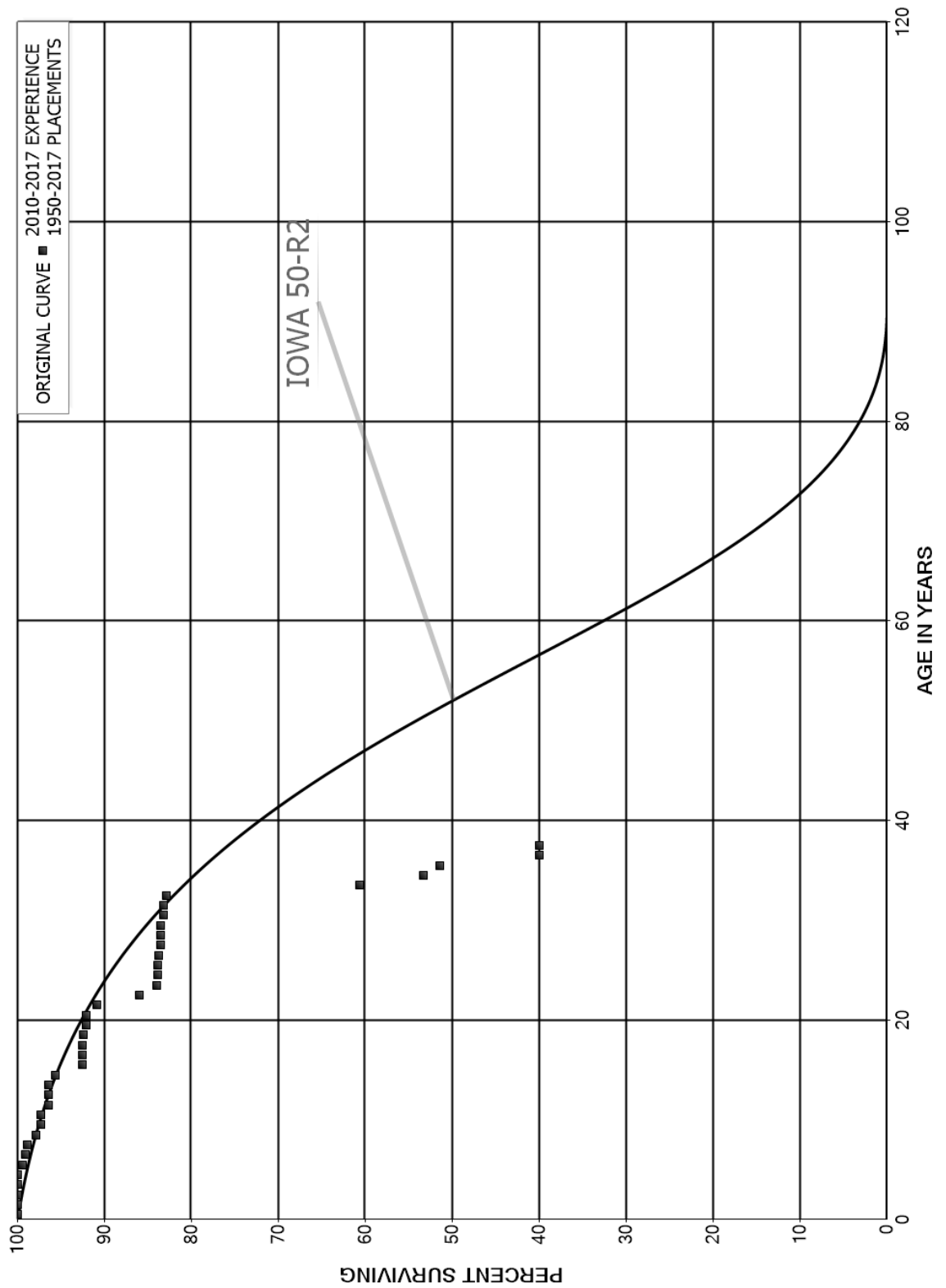
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1970-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	84,816		0.0000	1.0000	76.06
40.5	124,012		0.0000	1.0000	76.06
41.5	124,012		0.0000	1.0000	76.06
42.5	118,224	4,624	0.0391	0.9609	76.06
43.5	113,599	225	0.0020	0.9980	73.08
44.5	45,342	4,015	0.0886	0.9114	72.94
45.5	3,892	2,443	0.6275	0.3725	66.48
46.5	1,450	305	0.2104	0.7896	24.76
47.5					19.55

AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS
ACCOUNT 354.4 STRUCTURES AND IMPROVEMENTS - TREATMENT AND DISPOSAL
ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 354.4 STRUCTURES AND IMPROVEMENTS - TREATMENT AND DISPOSAL

ORIGINAL LIFE TABLE

PLACEMENT BAND 1950-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	3,578,187		0.0000	1.0000	100.00
0.5	6,199,355		0.0000	1.0000	100.00
1.5	5,855,261		0.0000	1.0000	100.00
2.5	5,541,007	1,050	0.0002	0.9998	100.00
3.5	6,139,511	3,928	0.0006	0.9994	99.98
4.5	6,246,905	33,379	0.0053	0.9947	99.92
5.5	6,086,693	18,604	0.0031	0.9969	99.38
6.5	5,379,490	11,225	0.0021	0.9979	99.08
7.5	9,357,452	98,278	0.0105	0.9895	98.87
8.5	6,808,266	36,315	0.0053	0.9947	97.83
9.5	6,770,210	2,864	0.0004	0.9996	97.31
10.5	6,231,635	58,111	0.0093	0.9907	97.27
11.5	5,478,941	371	0.0001	0.9999	96.36
12.5	4,984,366		0.0000	1.0000	96.36
13.5	4,948,804	37,221	0.0075	0.9925	96.36
14.5	4,139,342	133,937	0.0324	0.9676	95.63
15.5	849,694		0.0000	1.0000	92.54
16.5	538,370		0.0000	1.0000	92.54
17.5	515,020	634	0.0012	0.9988	92.54
18.5	462,361	1,597	0.0035	0.9965	92.42
19.5	1,109,863		0.0000	1.0000	92.11
20.5	1,201,958	16,374	0.0136	0.9864	92.11
21.5	1,420,538	77,073	0.0543	0.9457	90.85
22.5	2,280,284	52,790	0.0232	0.9768	85.92
23.5	1,896,916	1,098	0.0006	0.9994	83.93
24.5	2,110,119	856	0.0004	0.9996	83.88
25.5	1,958,767	2,783	0.0014	0.9986	83.85
26.5	2,097,701	4,448	0.0021	0.9979	83.73
27.5	2,106,672		0.0000	1.0000	83.55
28.5	2,051,424		0.0000	1.0000	83.55
29.5	2,564,769	10,032	0.0039	0.9961	83.55
30.5	2,419,157	1,834	0.0008	0.9992	83.23
31.5	298,968	1,105	0.0037	0.9963	83.16
32.5	259,357	69,751	0.2689	0.7311	82.86
33.5	189,606	22,856	0.1205	0.8795	60.57
34.5	111,622	3,894	0.0349	0.9651	53.27
35.5	107,728	24,054	0.2233	0.7767	51.41
36.5	46,827		0.0000	1.0000	39.93
37.5					39.93
38.5					

AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 354.4 STRUCTURES AND IMPROVEMENTS - TREATMENT AND DISPOSAL

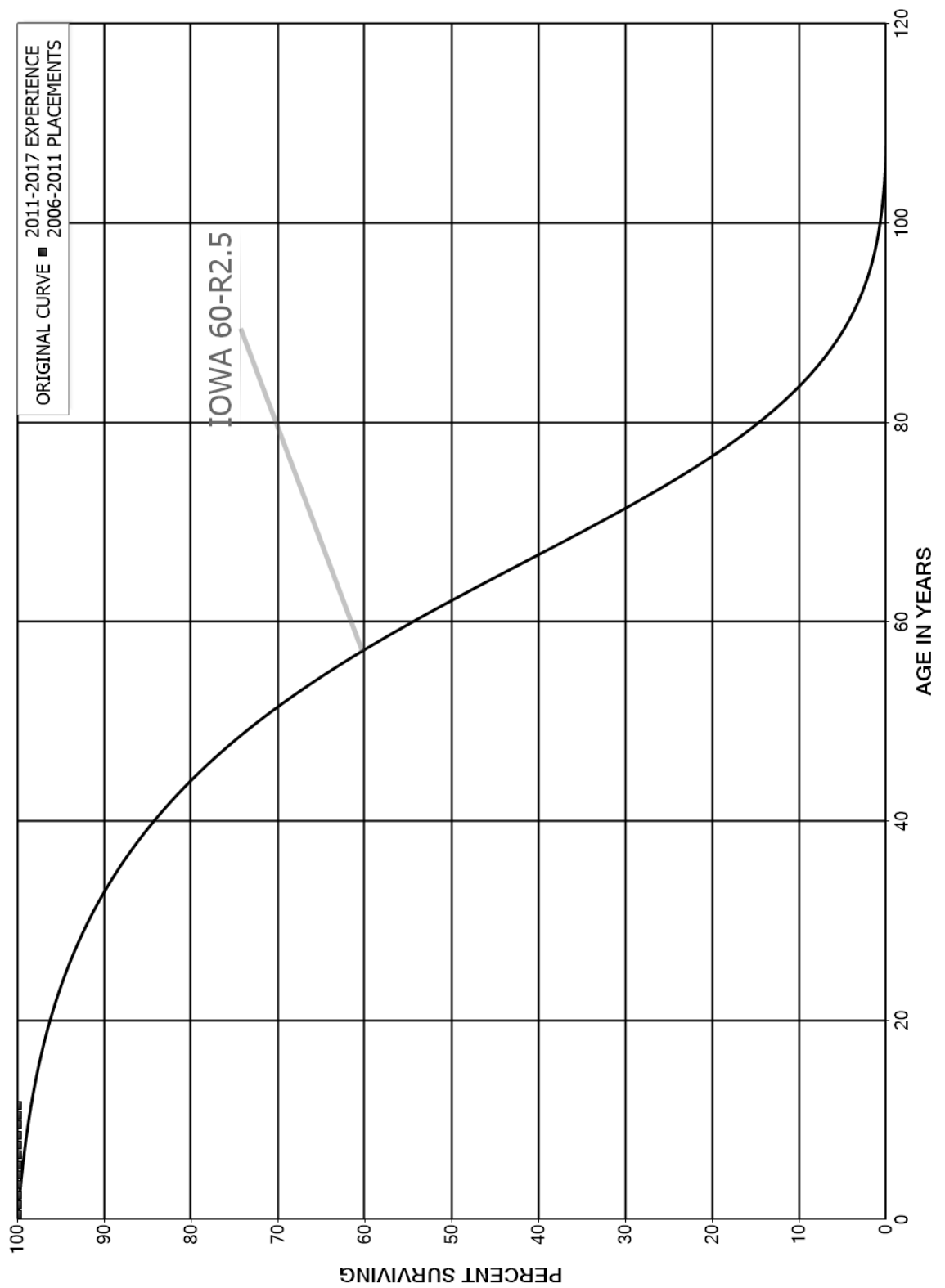
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1950-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	26,820		0.0000		
40.5	462,945		0.0000		
41.5	462,945	1,160	0.0025		
42.5	461,785	6,332	0.0137		
43.5	455,453	9,139	0.0201		
44.5	419,494	461	0.0011		
45.5	15,914		0.0000		
46.5	15,914	12,150	0.7635		
47.5					
48.5					
49.5					
50.5					
51.5					
52.5					
53.5					
54.5					
55.5					
56.5					
57.5					
58.5					
59.5	420,422		0.0000		
60.5	420,422	3,111	0.0074		
61.5	417,311		0.0000		
62.5	417,311		0.0000		
63.5	417,311		0.0000		
64.5	417,311		0.0000		
65.5	417,311		0.0000		
66.5	417,311	44,392	0.1064		
67.5					

AQUA PENNSYLVANIA, INC.
 ALL OTHER WASTEWATER OPERATIONS
 ACCOUNT 354.5 STRUCTURES AND IMPROVEMENTS - RECLAIMED WATER TREATMENT
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 354.5 STRUCTURES AND IMPROVEMENTS - RECLAIMED WATER TREATMENT

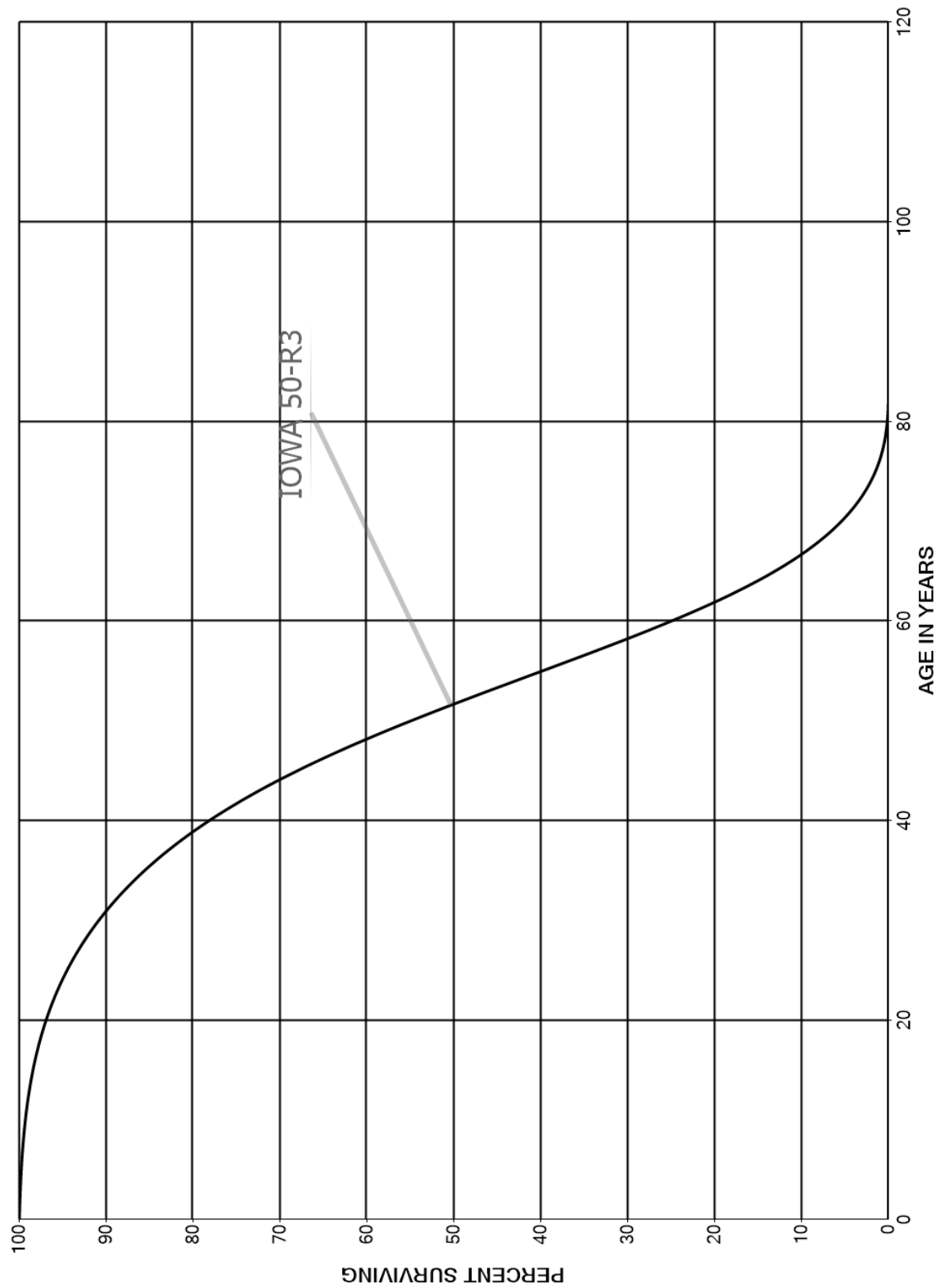
ORIGINAL LIFE TABLE

PLACEMENT BAND 2006-2011

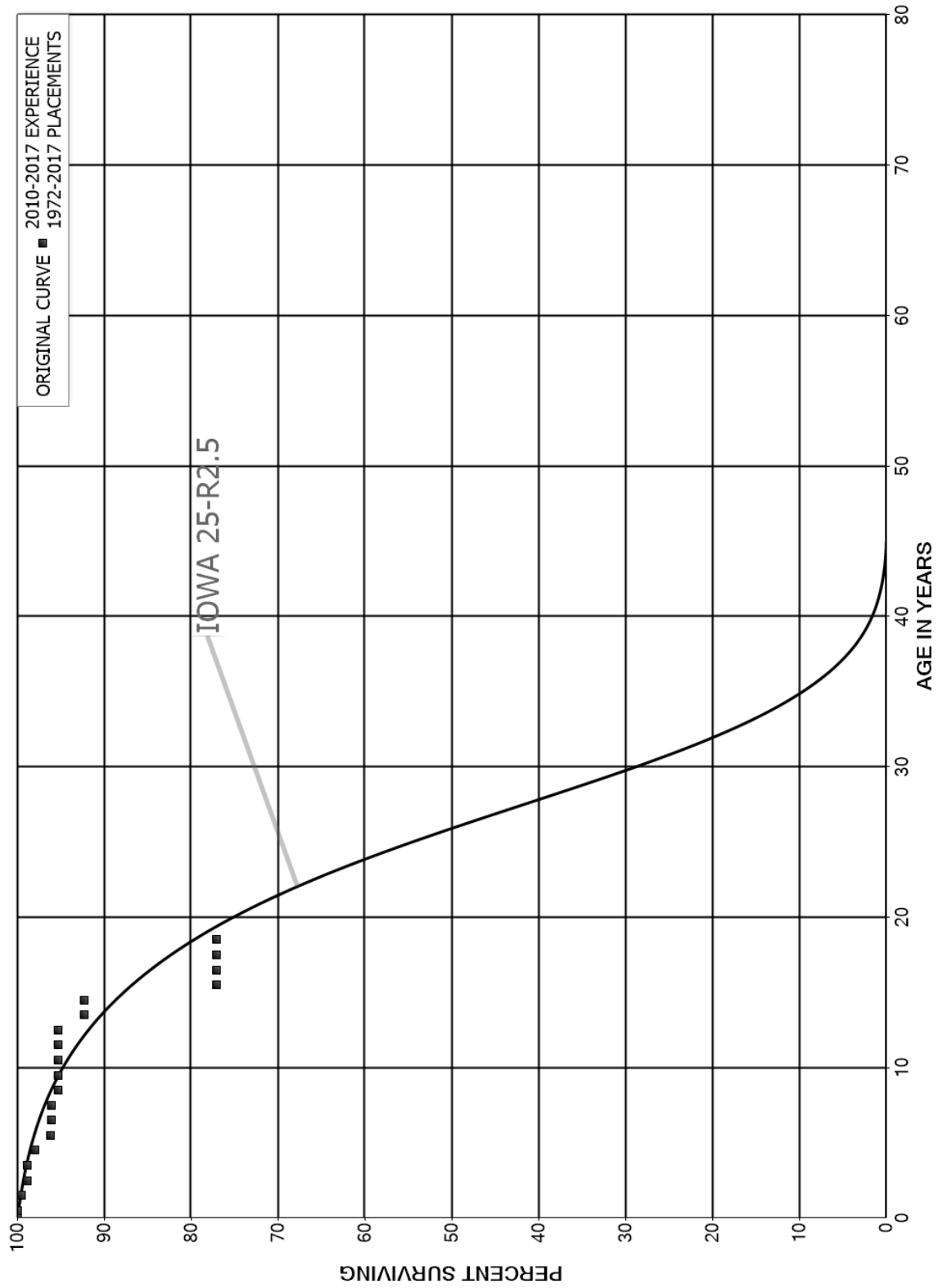
EXPERIENCE BAND 2011-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	627		0.0000	1.0000	100.00
0.5	627		0.0000	1.0000	100.00
1.5	627		0.0000	1.0000	100.00
2.5	2,887		0.0000	1.0000	100.00
3.5	7,931		0.0000	1.0000	100.00
4.5	36,713		0.0000	1.0000	100.00
5.5	36,713		0.0000	1.0000	100.00
6.5	36,086		0.0000	1.0000	100.00
7.5	36,086		0.0000	1.0000	100.00
8.5	36,086		0.0000	1.0000	100.00
9.5	33,826		0.0000	1.0000	100.00
10.5	28,782		0.0000	1.0000	100.00
11.5					100.00

AQUA PENNSYLVANIA, INC.
 ALL OTHER WASTEWATER OPERATIONS
 ACCOUNT 354.7 STRUCTURES AND IMPROVEMENTS - GENERAL
 SMOOTH SURVIVOR CURVE



AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS
ACCOUNTS 355.2 THROUGH 355.4 POWER GENERATING EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNTS 355.2 THROUGH 355.4 POWER GENERATING EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1972-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	390,273		0.0000	1.0000	100.00
0.5	416,698	1,869	0.0045	0.9955	100.00
1.5	543,479	3,867	0.0071	0.9929	99.55
2.5	494,299	0	0.0000	1.0000	98.84
3.5	534,998	4,826	0.0090	0.9910	98.84
4.5	557,098	10,166	0.0182	0.9818	97.95
5.5	543,510	543	0.0010	0.9990	96.16
6.5	476,710		0.0000	1.0000	96.07
7.5	407,872	3,410	0.0084	0.9916	96.07
8.5	398,951		0.0000	1.0000	95.26
9.5	148,398		0.0000	1.0000	95.26
10.5	141,345		0.0000	1.0000	95.26
11.5	101,287		0.0000	1.0000	95.26
12.5	101,287	3,214	0.0317	0.9683	95.26
13.5	98,074		0.0000	1.0000	92.24
14.5	98,007	16,131	0.1646	0.8354	92.24
15.5	128,165		0.0000	1.0000	77.06
16.5	128,165		0.0000	1.0000	77.06
17.5	120,000		0.0000	1.0000	77.06
18.5					77.06
19.5					
20.5					
21.5					
22.5					
23.5					
24.5					
25.5					
26.5					
27.5					
28.5					
29.5					
30.5					
31.5					
32.5					
33.5					
34.5					
35.5					
36.5					
37.5					
38.5					

AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNTS 355.2 THROUGH 355.4 POWER GENERATING EQUIPMENT

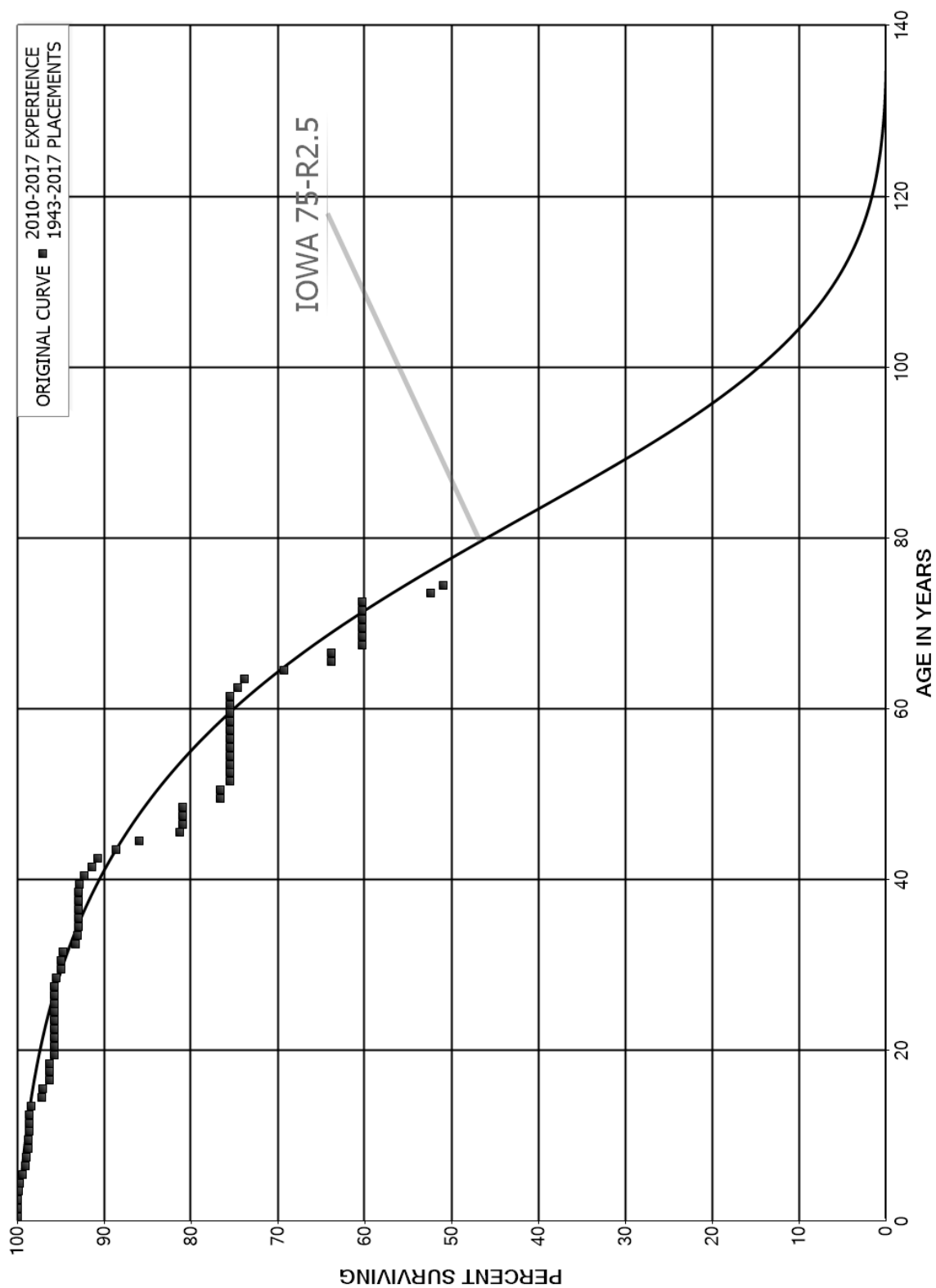
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1972-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5					
40.5	13,608		0.0000		
41.5	13,608		0.0000		
42.5	13,608		0.0000		
43.5	13,608		0.0000		
44.5	13,608		0.0000		
45.5					

AQUA PENNSYLVANIA, INC.
 ALL OTHER WASTEWATER OPERATIONS
 ACCOUNTS 360 AND 361 - COLLECTION MAINS - FORCE AND GRAVITY
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNTS 360 AND 361 - COLLECTION MAINS - FORCE AND GRAVITY

ORIGINAL LIFE TABLE

PLACEMENT BAND 1943-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	15,996,160		0.0000	1.0000	100.00
0.5	9,817,637	0	0.0000	1.0000	100.00
1.5	10,379,970	501	0.0000	1.0000	100.00
2.5	7,903,524	17,007	0.0022	0.9978	100.00
3.5	7,120,182	602	0.0001	0.9999	99.78
4.5	6,525,126	21,411	0.0033	0.9967	99.77
5.5	6,757,519	28,312	0.0042	0.9958	99.44
6.5	6,907,416	5,271	0.0008	0.9992	99.03
7.5	11,563,424	26,078	0.0023	0.9977	98.95
8.5	12,073,642	2,036	0.0002	0.9998	98.73
9.5	10,959,708	4,776	0.0004	0.9996	98.71
10.5	12,883,334		0.0000	1.0000	98.67
11.5	13,512,472	10,916	0.0008	0.9992	98.67
12.5	7,852,014	14,897	0.0019	0.9981	98.59
13.5	4,355,890	54,378	0.0125	0.9875	98.40
14.5	5,101,734	6,826	0.0013	0.9987	97.17
15.5	5,089,997	38,849	0.0076	0.9924	97.04
16.5	5,157,762		0.0000	1.0000	96.30
17.5	4,017,926		0.0000	1.0000	96.30
18.5	4,044,470	22,047	0.0055	0.9945	96.30
19.5	2,723,063		0.0000	1.0000	95.78
20.5	2,615,272		0.0000	1.0000	95.78
21.5	2,734,655		0.0000	1.0000	95.78
22.5	1,012,152		0.0000	1.0000	95.78
23.5	1,159,517		0.0000	1.0000	95.78
24.5	1,452,252		0.0000	1.0000	95.78
25.5	1,592,077		0.0000	1.0000	95.78
26.5	2,190,183		0.0000	1.0000	95.78
27.5	1,918,013	4,463	0.0023	0.9977	95.78
28.5	2,149,972	13,121	0.0061	0.9939	95.56
29.5	2,315,956		0.0000	1.0000	94.97
30.5	3,189,169	7,385	0.0023	0.9977	94.97
31.5	4,575,534	68,924	0.0151	0.9849	94.75
32.5	4,731,241	14,002	0.0030	0.9970	93.33
33.5	4,685,663	6,089	0.0013	0.9987	93.05
34.5	4,093,664		0.0000	1.0000	92.93
35.5	3,303,952		0.0000	1.0000	92.93
36.5	1,898,586		0.0000	1.0000	92.93
37.5	787,007		0.0000	1.0000	92.93
38.5	748,261	675	0.0009	0.9991	92.93

AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNTS 360 AND 361 - COLLECTION MAINS - FORCE AND GRAVITY

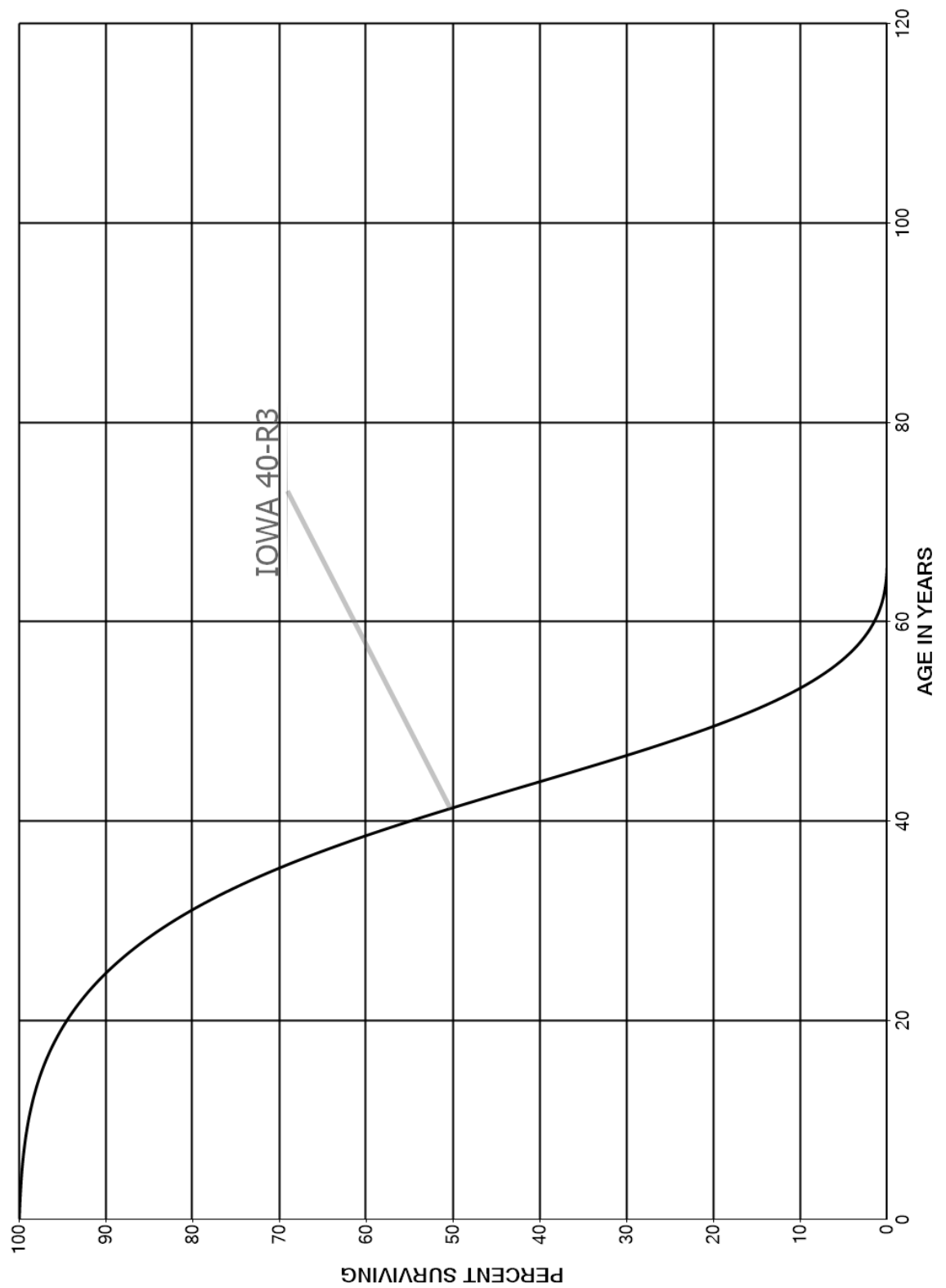
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1943-2017

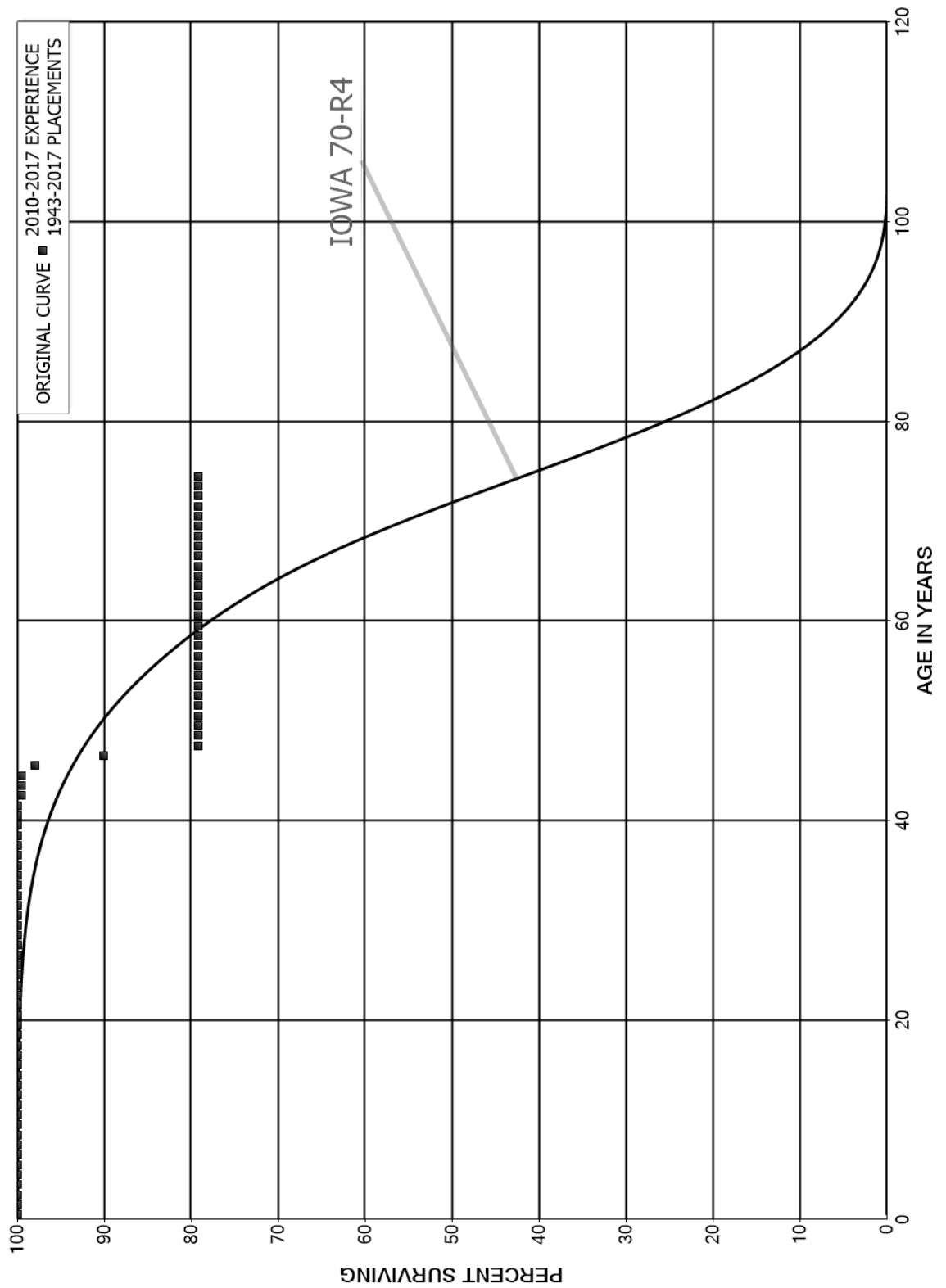
EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	1,327,693	8,451	0.0064	0.9936	92.84
40.5	2,188,537	20,857	0.0095	0.9905	92.25
41.5	2,301,907	15,115	0.0066	0.9934	91.37
42.5	2,191,376	52,787	0.0241	0.9759	90.77
43.5	2,133,054	62,534	0.0293	0.9707	88.59
44.5	1,453,359	79,155	0.0545	0.9455	85.99
45.5	449,770	1,695	0.0038	0.9962	81.31
46.5	173,512		0.0000	1.0000	81.00
47.5	108,439		0.0000	1.0000	81.00
48.5	108,439	5,909	0.0545	0.9455	81.00
49.5	122,967		0.0000	1.0000	76.59
50.5	133,941	1,870	0.0140	0.9860	76.59
51.5	207,546		0.0000	1.0000	75.52
52.5	50,943		0.0000	1.0000	75.52
53.5	50,943		0.0000	1.0000	75.52
54.5	63,623		0.0000	1.0000	75.52
55.5	44,091		0.0000	1.0000	75.52
56.5	59,997		0.0000	1.0000	75.52
57.5	23,654		0.0000	1.0000	75.52
58.5	12,681		0.0000	1.0000	75.52
59.5	600,366		0.0000	1.0000	75.52
60.5	600,366	12	0.0000	1.0000	75.52
61.5	642,094	8,105	0.0126	0.9874	75.52
62.5	579,569	5,613	0.0097	0.9903	74.56
63.5	573,956	35,569	0.0620	0.9380	73.84
64.5	538,387	41,982	0.0780	0.9220	69.26
65.5	496,404	493	0.0010	0.9990	63.86
66.5	536,053	29,911	0.0558	0.9442	63.80
67.5	40,141		0.0000	1.0000	60.24
68.5	40,141		0.0000	1.0000	60.24
69.5	40,141		0.0000	1.0000	60.24
70.5	40,141		0.0000	1.0000	60.24
71.5	58,091		0.0000	1.0000	60.24
72.5	40,141	5,234	0.1304	0.8696	60.24
73.5	34,907	932	0.0267	0.9733	52.39
74.5					50.99

AQUA PENNSYLVANIA, INC.
 ALL OTHER WASTEWATER OPERATIONS
 ACCOUNT 362 SPECIAL COLLECTING STRUCTURES
 SMOOTH SURVIVOR CURVE



AQUA PENNSYLVANIA, INC.
 ALL OTHER WASTEWATER OPERATIONS
 ACCOUNT 363 SERVICES
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 363 SERVICES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1943-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1,511,339		0.0000	1.0000	100.00
0.5	1,322,032		0.0000	1.0000	100.00
1.5	1,258,144		0.0000	1.0000	100.00
2.5	1,064,617		0.0000	1.0000	100.00
3.5	1,016,113		0.0000	1.0000	100.00
4.5	989,078		0.0000	1.0000	100.00
5.5	1,100,135		0.0000	1.0000	100.00
6.5	1,102,716		0.0000	1.0000	100.00
7.5	3,362,564		0.0000	1.0000	100.00
8.5	3,625,685	775	0.0002	0.9998	100.00
9.5	3,552,572		0.0000	1.0000	99.98
10.5	3,859,193		0.0000	1.0000	99.98
11.5	3,844,684		0.0000	1.0000	99.98
12.5	1,370,315		0.0000	1.0000	99.98
13.5	1,056,916		0.0000	1.0000	99.98
14.5	1,066,882		0.0000	1.0000	99.98
15.5	1,067,717		0.0000	1.0000	99.98
16.5	779,784		0.0000	1.0000	99.98
17.5	681,287		0.0000	1.0000	99.98
18.5	406,255		0.0000	1.0000	99.98
19.5	254,947		0.0000	1.0000	99.98
20.5	127,825		0.0000	1.0000	99.98
21.5	133,448		0.0000	1.0000	99.98
22.5	79,549		0.0000	1.0000	99.98
23.5	146,334		0.0000	1.0000	99.98
24.5	169,875		0.0000	1.0000	99.98
25.5	296,931		0.0000	1.0000	99.98
26.5	284,248		0.0000	1.0000	99.98
27.5	472,422		0.0000	1.0000	99.98
28.5	1,065,631		0.0000	1.0000	99.98
29.5	1,374,998		0.0000	1.0000	99.98
30.5	1,375,420		0.0000	1.0000	99.98
31.5	1,410,267		0.0000	1.0000	99.98
32.5	1,364,838		0.0000	1.0000	99.98
33.5	950,870		0.0000	1.0000	99.98
34.5	871,429		0.0000	1.0000	99.98
35.5	836,245		0.0000	1.0000	99.98
36.5	805,933		0.0000	1.0000	99.98
37.5	694,345		0.0000	1.0000	99.98
38.5	681,103		0.0000	1.0000	99.98

AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 363 SERVICES

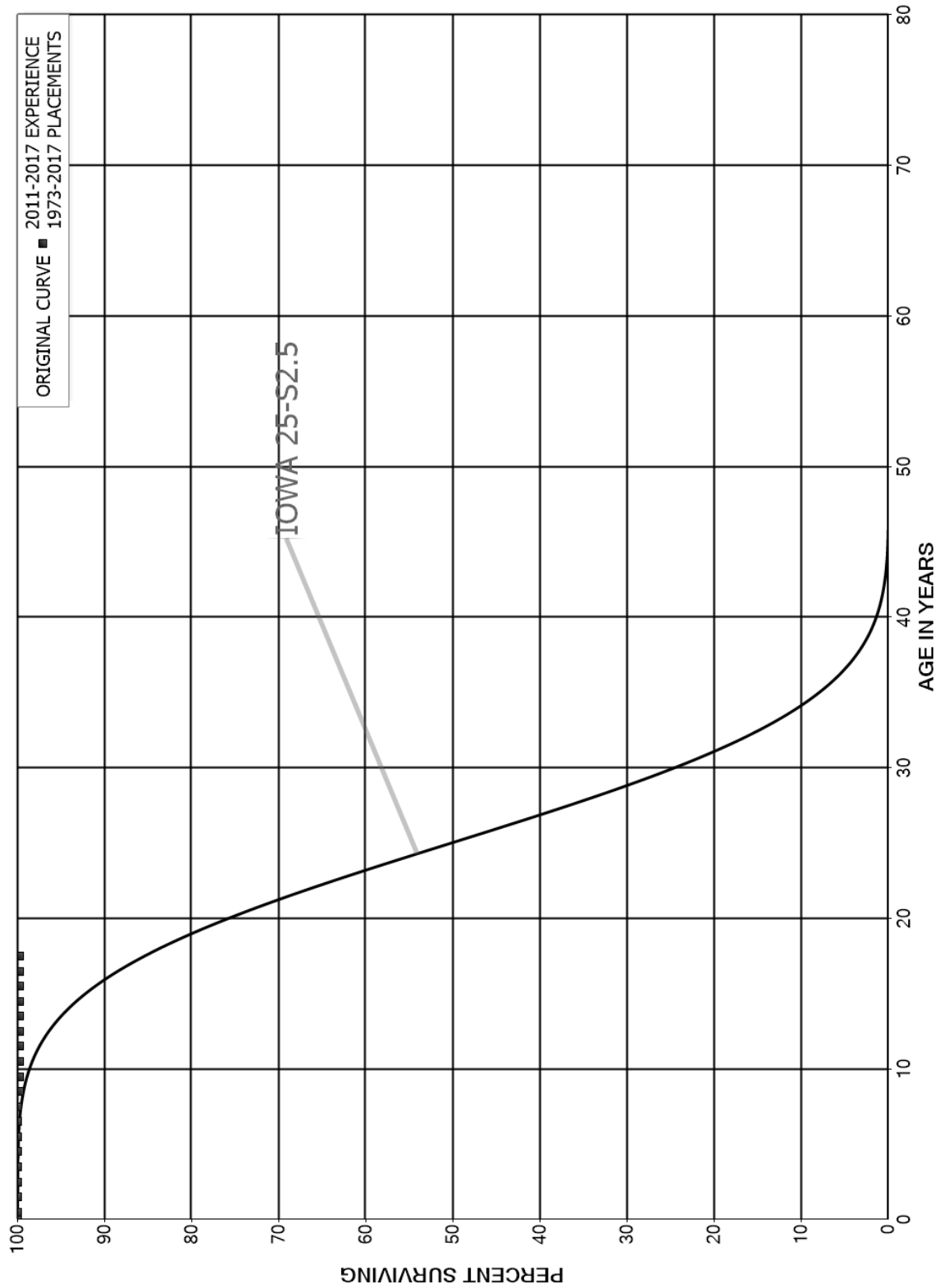
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1943-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	588,590		0.0000	1.0000	99.98
40.5	521,955		0.0000	1.0000	99.98
41.5	376,113	1,782	0.0047	0.9953	99.98
42.5	188,525		0.0000	1.0000	99.50
43.5	66,015		0.0000	1.0000	99.50
44.5	61,544	960	0.0156	0.9844	99.50
45.5	11,861	957	0.0807	0.9193	97.95
46.5	10,074	1,217	0.1208	0.8792	90.05
47.5	3,076		0.0000	1.0000	79.17
48.5	3,076		0.0000	1.0000	79.17
49.5	5,373		0.0000	1.0000	79.17
50.5	9,689		0.0000	1.0000	79.17
51.5	14,235		0.0000	1.0000	79.17
52.5	8,302		0.0000	1.0000	79.17
53.5	8,302		0.0000	1.0000	79.17
54.5	12,475		0.0000	1.0000	79.17
55.5	10,786		0.0000	1.0000	79.17
56.5	15,947		0.0000	1.0000	79.17
57.5	8,490		0.0000	1.0000	79.17
58.5	4,173		0.0000	1.0000	79.17
59.5	6,337		0.0000	1.0000	79.17
60.5	6,337		0.0000	1.0000	79.17
61.5	13,817		0.0000	1.0000	79.17
62.5	2,164		0.0000	1.0000	79.17
63.5	2,164		0.0000	1.0000	79.17
64.5	2,164		0.0000	1.0000	79.17
65.5	2,164		0.0000	1.0000	79.17
66.5	18,061		0.0000	1.0000	79.17
67.5	15,897		0.0000	1.0000	79.17
68.5	15,897		0.0000	1.0000	79.17
69.5	15,897		0.0000	1.0000	79.17
70.5	15,897		0.0000	1.0000	79.17
71.5	21,412		0.0000	1.0000	79.17
72.5	15,897		0.0000	1.0000	79.17
73.5	15,897		0.0000	1.0000	79.17
74.5					79.17

AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS
ACCOUNT 364 METERS
ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 364 METERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1973-2017

EXPERIENCE BAND 2011-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	40,826		0.0000	1.0000	100.00
0.5	20,552		0.0000	1.0000	100.00
1.5	50,096		0.0000	1.0000	100.00
2.5	51,189		0.0000	1.0000	100.00
3.5	56,956		0.0000	1.0000	100.00
4.5	57,573		0.0000	1.0000	100.00
5.5	57,899		0.0000	1.0000	100.00
6.5	60,884		0.0000	1.0000	100.00
7.5	114,648	326	0.0028	0.9972	100.00
8.5	97,053		0.0000	1.0000	99.72
9.5	75,128		0.0000	1.0000	99.72
10.5	68,787		0.0000	1.0000	99.72
11.5	68,787		0.0000	1.0000	99.72
12.5	68,787		0.0000	1.0000	99.72
13.5	65,802		0.0000	1.0000	99.72
14.5	3,828		0.0000	1.0000	99.72
15.5	3,828		0.0000	1.0000	99.72
16.5	3,828		0.0000	1.0000	99.72
17.5					99.72
18.5					
19.5					
20.5					
21.5					
22.5					
23.5					
24.5					
25.5					
26.5					
27.5					
28.5					
29.5					
30.5					
31.5					
32.5					
33.5					
34.5					
35.5					
36.5					
37.5	710		0.0000		
38.5	710		0.0000		

AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 364 METERS

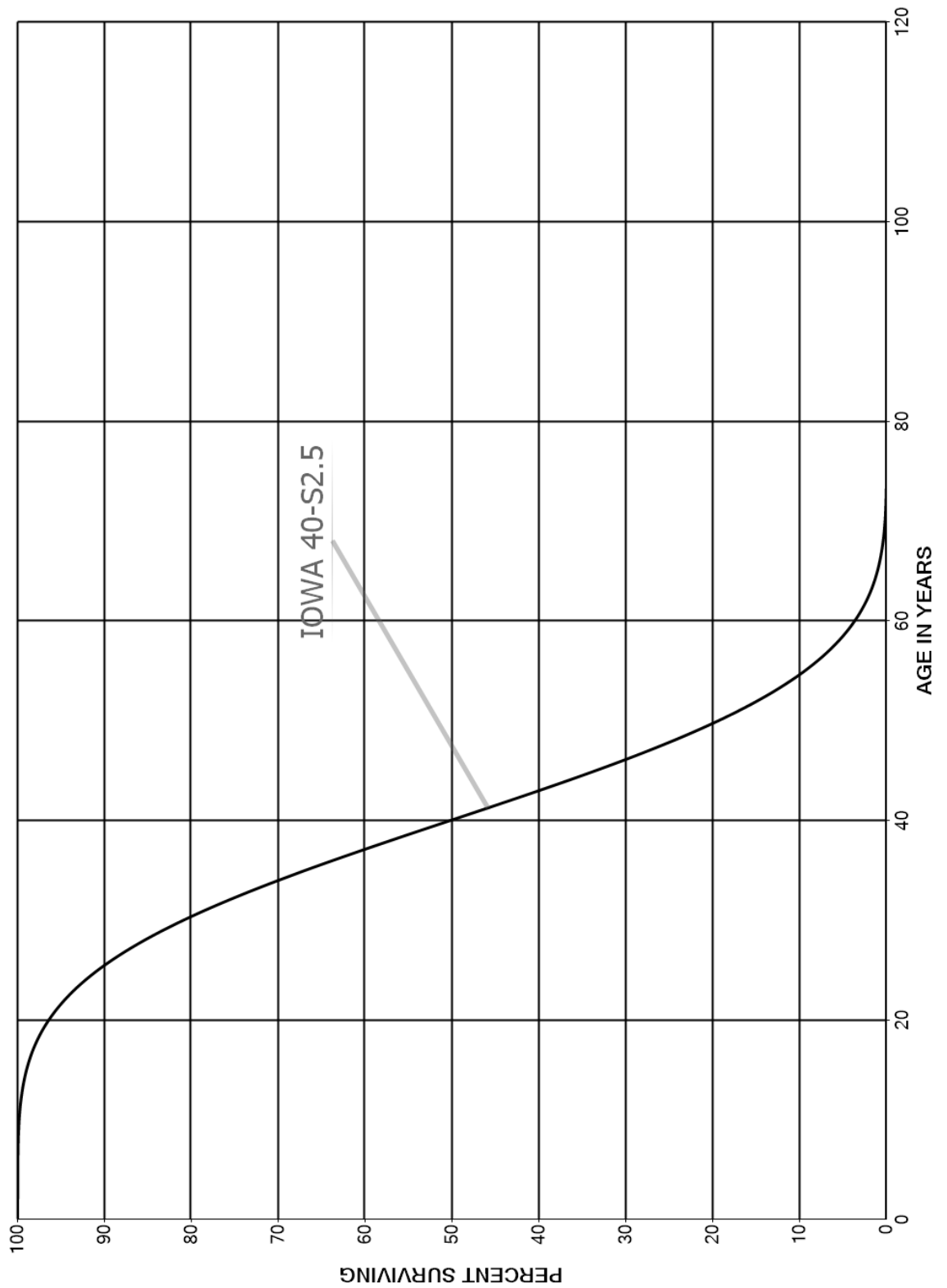
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1973-2017

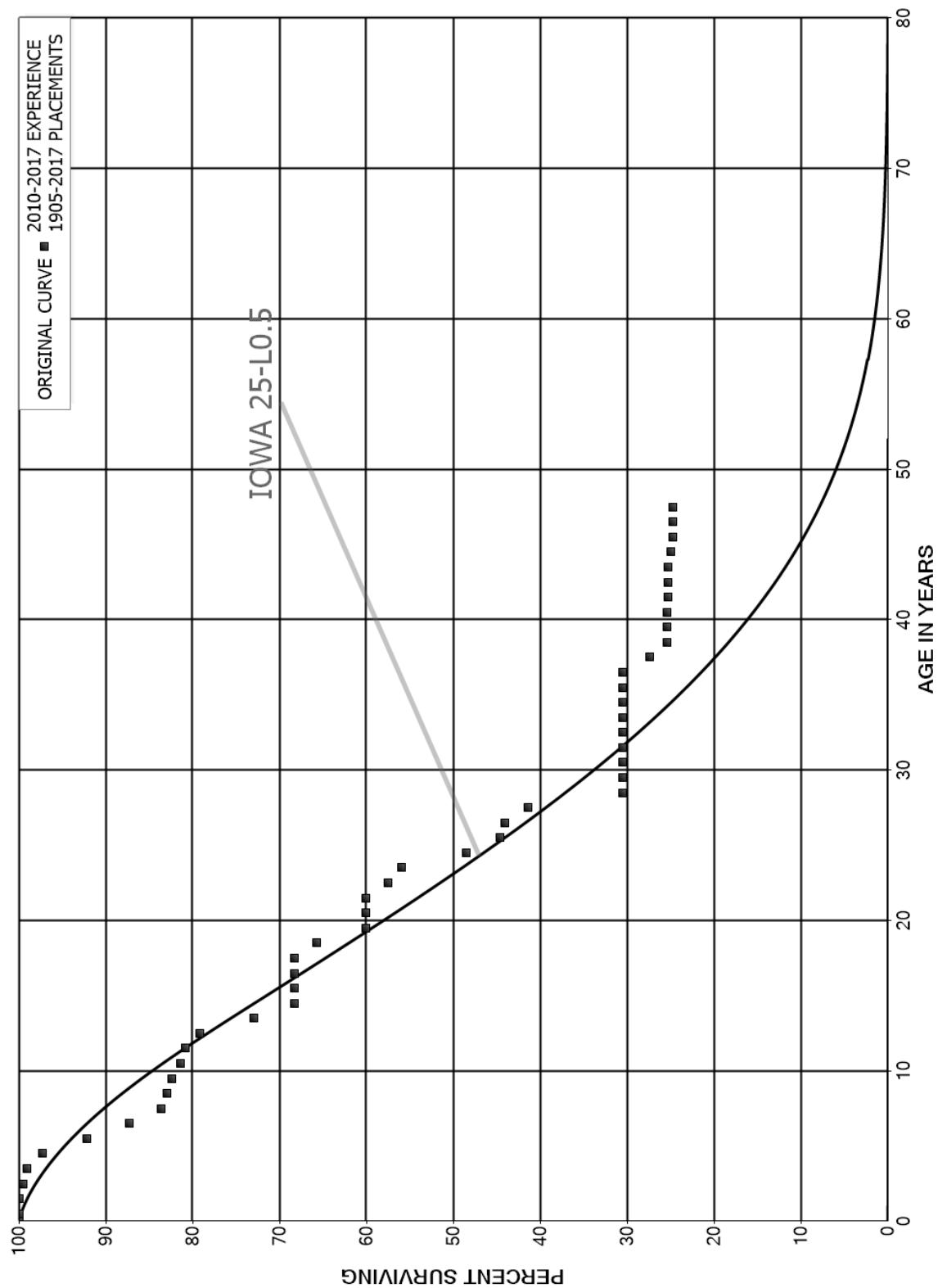
EXPERIENCE BAND 2011-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	710		0.0000		
40.5	710		0.0000		
41.5	710		0.0000		
42.5	710		0.0000		
43.5	710		0.0000		
44.5					

AQUA PENNSYLVANIA, INC.
 ALL OTHER WASTEWATER OPERATIONS
 ACCOUNT 370 RECEIVING WELLS
 SMOOTH SURVIVOR CURVE



AQUA PENNSYLVANIA, INC.
 ALL OTHER WASTEWATER OPERATIONS
 ACCOUNTS 371.3 AND 371.5 PUMPING EQUIPMENT
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNTS 371.3 AND 371.5 PUMPING EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1905-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	3,397,816		0.0000	1.0000	100.00
0.5	4,092,747	952	0.0002	0.9998	100.00
1.5	3,615,772	18,684	0.0052	0.9948	99.98
2.5	3,097,690	12,096	0.0039	0.9961	99.46
3.5	2,633,036	48,269	0.0183	0.9817	99.07
4.5	2,413,995	125,611	0.0520	0.9480	97.26
5.5	2,274,801	122,151	0.0537	0.9463	92.19
6.5	1,755,020	72,135	0.0411	0.9589	87.24
7.5	4,117,720	33,901	0.0082	0.9918	83.66
8.5	3,105,571	20,505	0.0066	0.9934	82.97
9.5	2,959,009	37,675	0.0127	0.9873	82.42
10.5	2,872,624	20,575	0.0072	0.9928	81.37
11.5	2,799,081	55,428	0.0198	0.9802	80.79
12.5	186,364	14,808	0.0795	0.9205	79.19
13.5	200,094	12,768	0.0638	0.9362	72.90
14.5	189,298		0.0000	1.0000	68.25
15.5	1,171,780		0.0000	1.0000	68.25
16.5	1,047,009		0.0000	1.0000	68.25
17.5	1,037,742	38,624	0.0372	0.9628	68.25
18.5	31,583	2,693	0.0853	0.9147	65.71
19.5	43,137		0.0000	1.0000	60.10
20.5	81,726		0.0000	1.0000	60.10
21.5	70,074	3,051	0.0435	0.9565	60.10
22.5	66,671	1,841	0.0276	0.9724	57.49
23.5	64,830	8,546	0.1318	0.8682	55.90
24.5	56,285	4,525	0.0804	0.9196	48.53
25.5	51,760	621	0.0120	0.9880	44.63
26.5	51,139	3,081	0.0602	0.9398	44.09
27.5	42,235	11,195	0.2651	0.7349	41.44
28.5	17,281		0.0000	1.0000	30.45
29.5	138,140		0.0000	1.0000	30.45
30.5	7,478		0.0000	1.0000	30.45
31.5	25,429		0.0000	1.0000	30.45
32.5	25,429		0.0000	1.0000	30.45
33.5	25,429		0.0000	1.0000	30.45
34.5	31,213		0.0000	1.0000	30.45
35.5	31,213		0.0000	1.0000	30.45
36.5	30,249	2,993	0.0990	0.9010	30.45
37.5	27,633	2,021	0.0731	0.9269	27.44
38.5	25,613		0.0000	1.0000	25.43

AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNTS 371.3 AND 371.5 PUMPING EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1905-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	75,029		0.0000	1.0000	25.43
40.5	75,029	555	0.0074	0.9926	25.43
41.5	74,474		0.0000	1.0000	25.25
42.5	73,704		0.0000	1.0000	25.25
43.5	73,704	739	0.0100	0.9900	25.25
44.5	72,966	720	0.0099	0.9901	24.99
45.5	78,528		0.0000	1.0000	24.75
46.5	78,528		0.0000	1.0000	24.75
47.5					24.75
48.5					
49.5					
50.5					
51.5					
52.5					
53.5					
54.5					
55.5					
56.5					
57.5					
58.5					
59.5					
60.5					
61.5					
62.5					
63.5					
64.5					
65.5					
66.5					
67.5					
68.5					
69.5					
70.5					
71.5					
72.5					
73.5					
74.5					
75.5					
76.5					
77.5					
78.5					

AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNTS 371.3 AND 371.5 PUMPING EQUIPMENT

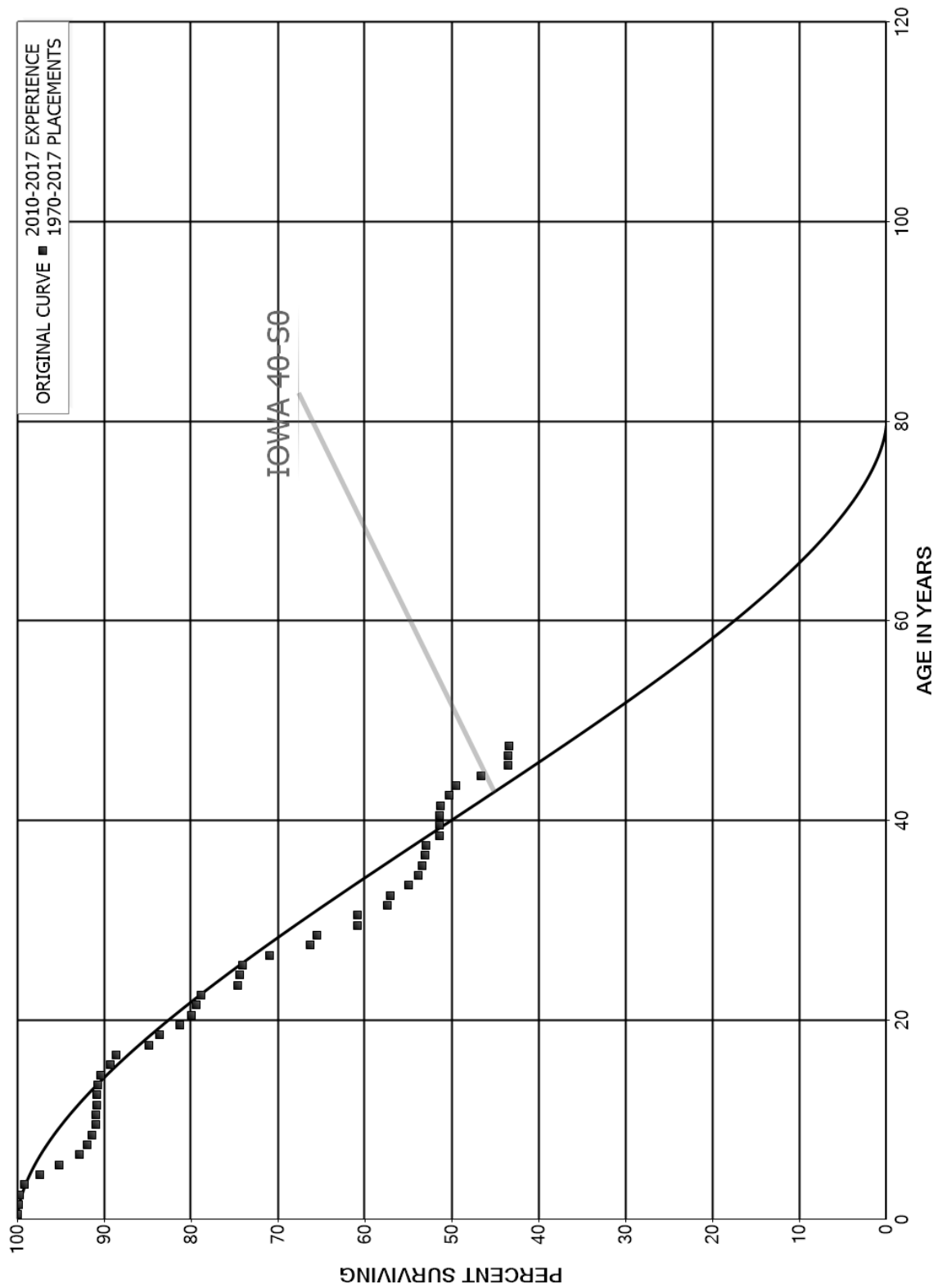
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1905-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5					
80.5					
81.5					
82.5					
83.5					
84.5					
85.5					
86.5					
87.5					
88.5					
89.5					
90.5					
91.5					
92.5					
93.5					
94.5					
95.5					
96.5					
97.5					
98.5					
99.5					
100.5					
101.5					
102.5					
103.5					
104.5	209,621		0.0000		
105.5	209,621		0.0000		
106.5	209,621		0.0000		
107.5	209,621	171	0.0008		
108.5	209,449	611	0.0029		
109.5	208,838		0.0000		
110.5	208,838	358	0.0017		
111.5	208,480	488	0.0023		
112.5					

AQUA PENNSYLVANIA, INC.
 ALL OTHER WASTEWATER OPERATIONS
 ACCOUNT 380 TREATMENT AND DISPOSAL EQUIPMENT
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 380 TREATMENT AND DISPOSAL EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1970-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	13,621,639		0.0000	1.0000	100.00
0.5	8,927,926	13,388	0.0015	0.9985	100.00
1.5	5,461,305	7,760	0.0014	0.9986	99.85
2.5	2,738,060	13,642	0.0050	0.9950	99.71
3.5	2,308,322	43,518	0.0189	0.9811	99.21
4.5	2,077,670	47,140	0.0227	0.9773	97.34
5.5	1,863,779	44,228	0.0237	0.9763	95.13
6.5	1,364,357	12,858	0.0094	0.9906	92.87
7.5	3,936,063	27,676	0.0070	0.9930	92.00
8.5	3,594,706	14,803	0.0041	0.9959	91.35
9.5	5,387,317	651	0.0001	0.9999	90.98
10.5	5,313,389	8,168	0.0015	0.9985	90.97
11.5	5,251,372	537	0.0001	0.9999	90.83
12.5	4,182,224	5,815	0.0014	0.9986	90.82
13.5	4,173,673	15,874	0.0038	0.9962	90.69
14.5	1,420,554	16,236	0.0114	0.9886	90.35
15.5	416,396	3,225	0.0077	0.9923	89.31
16.5	478,183	20,293	0.0424	0.9576	88.62
17.5	465,660	6,990	0.0150	0.9850	84.86
18.5	965,467	26,904	0.0279	0.9721	83.59
19.5	2,187,839	34,683	0.0159	0.9841	81.26
20.5	2,188,728	16,804	0.0077	0.9923	79.97
21.5	2,209,278	14,350	0.0065	0.9935	79.35
22.5	879,147	47,460	0.0540	0.9460	78.84
23.5	711,084	1,801	0.0025	0.9975	74.58
24.5	1,007,851	4,204	0.0042	0.9958	74.39
25.5	708,877	30,315	0.0428	0.9572	74.08
26.5	160,048	10,528	0.0658	0.9342	70.92
27.5	300,605	3,491	0.0116	0.9884	66.25
28.5	316,039	22,313	0.0706	0.9294	65.48
29.5	263,224		0.0000	1.0000	60.86
30.5	395,542	22,157	0.0560	0.9440	60.86
31.5	265,814	1,978	0.0074	0.9926	57.45
32.5	731,115	26,806	0.0367	0.9633	57.02
33.5	670,214	13,867	0.0207	0.9793	54.93
34.5	614,752	4,770	0.0078	0.9922	53.79
35.5	730,592	4,945	0.0068	0.9932	53.38
36.5	721,235	251	0.0003	0.9997	53.02
37.5	930,596	27,462	0.0295	0.9705	53.00
38.5	892,915	53	0.0001	0.9999	51.43

AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 380 TREATMENT AND DISPOSAL EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

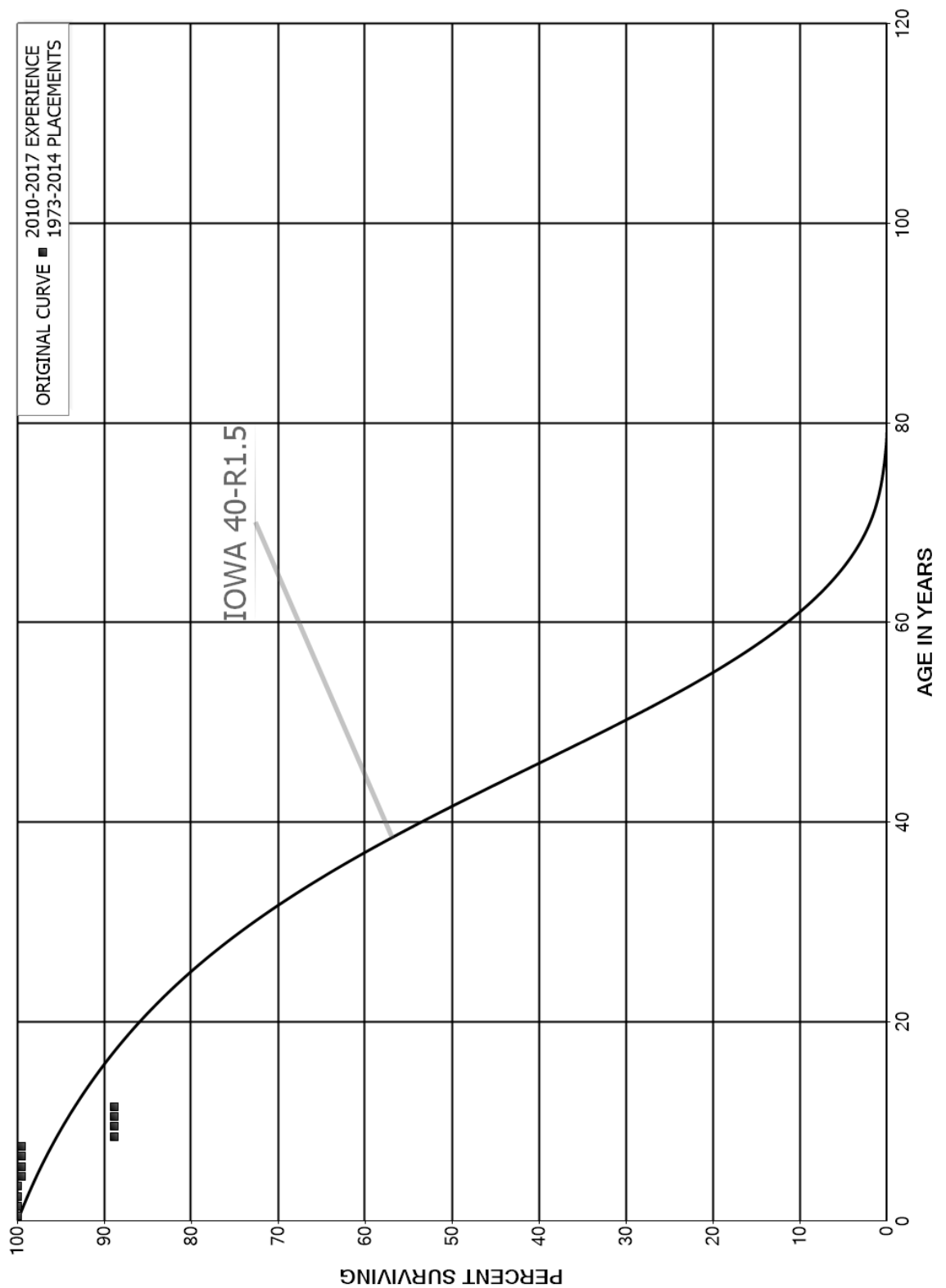
PLACEMENT BAND 1970-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	1,168,274	134	0.0001	0.9999	51.43
40.5	1,172,732	4,299	0.0037	0.9963	51.42
41.5	1,168,433	22,069	0.0189	0.9811	51.24
42.5	1,146,365	18,264	0.0159	0.9841	50.27
43.5	990,877	56,252	0.0568	0.9432	49.47
44.5	684,491	45,609	0.0666	0.9334	46.66
45.5	74,364		0.0000	1.0000	43.55
46.5	74,364	254	0.0034	0.9966	43.55
47.5					43.40



AQUA PENNSYLVANIA, INC.
 ALL OTHER WASTEWATER OPERATIONS
 ACCOUNTS 381.4 AND 381.5 PLANT SEWERS
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNTS 381.4 AND 381.5 PLANT SEWERS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1973-2014

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	48,618		0.0000	1.0000	100.00
0.5	59,837		0.0000	1.0000	100.00
1.5	72,616		0.0000	1.0000	100.00
2.5	96,852		0.0000	1.0000	100.00
3.5	118,414	584	0.0049	0.9951	100.00
4.5	86,095		0.0000	1.0000	99.51
5.5	86,095		0.0000	1.0000	99.51
6.5	86,095		0.0000	1.0000	99.51
7.5	83,846	8,988	0.1072	0.8928	99.51
8.5	63,640		0.0000	1.0000	88.84
9.5	51,445		0.0000	1.0000	88.84
10.5	27,208		0.0000	1.0000	88.84
11.5					88.84
12.5					
13.5					
14.5					
15.5					
16.5					
17.5					
18.5					
19.5					
20.5					
21.5					
22.5					
23.5					
24.5					
25.5					
26.5					
27.5					
28.5					
29.5					
30.5					
31.5					
32.5					
33.5					
34.5					
35.5					
36.5					
37.5					
38.5					

AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNTS 381.4 AND 381.5 PLANT SEWERS

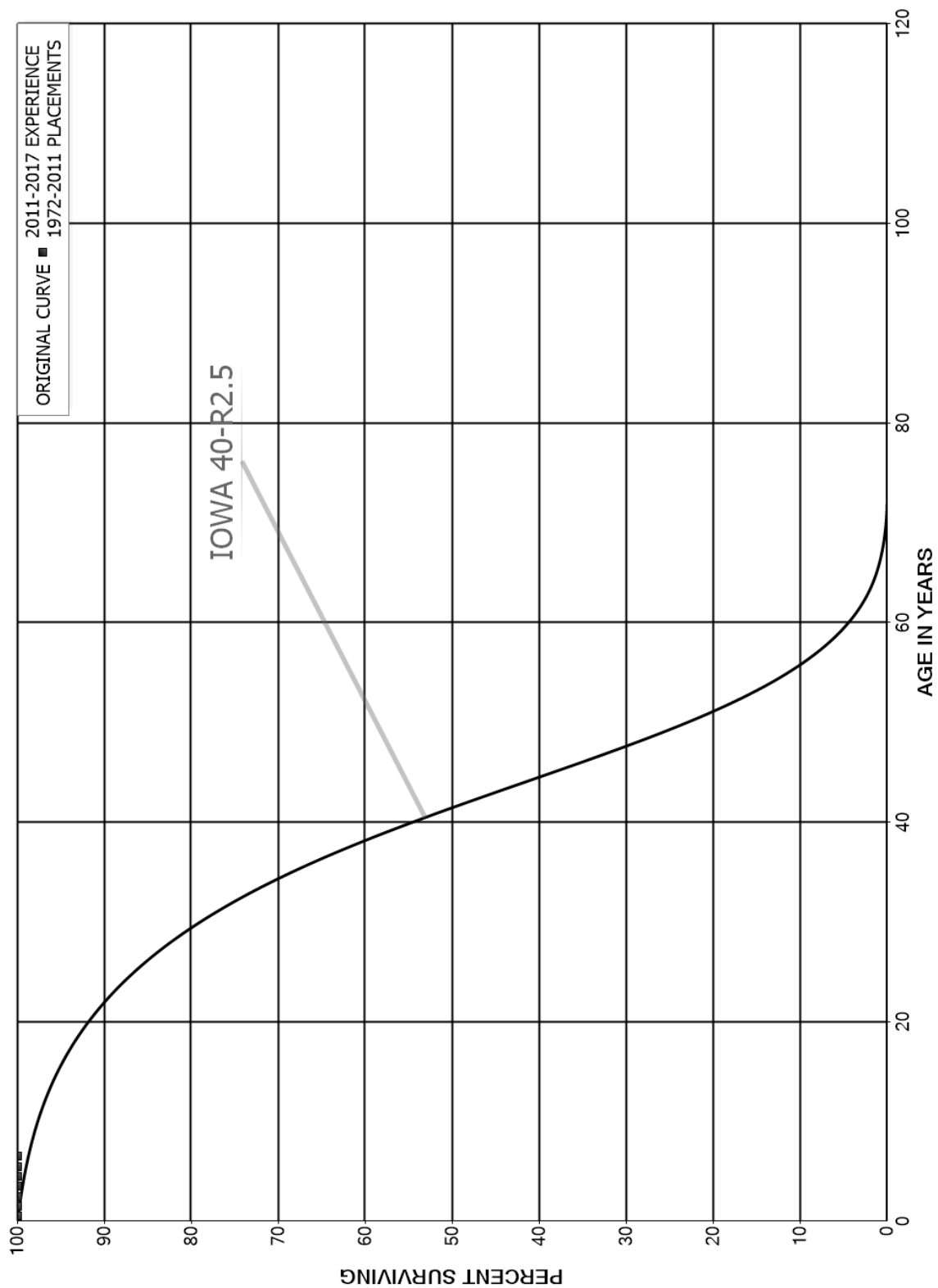
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1973-2014

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	5,163		0.0000		
40.5	5,163		0.0000		
41.5	5,163		0.0000		
42.5	5,163		0.0000		
43.5	5,163		0.0000		
44.5					

AQUA PENNSYLVANIA, INC.
 ALL OTHER WASTEWATER OPERATIONS
 ACCOUNT 382 OUTFALL LINES
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 382 OUTFALL LINES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1972-2011

EXPERIENCE BAND 2011-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	7,619		0.0000	1.0000	100.00
0.5	7,619		0.0000	1.0000	100.00
1.5	7,619		0.0000	1.0000	100.00
2.5	7,619		0.0000	1.0000	100.00
3.5	7,619		0.0000	1.0000	100.00
4.5	7,619		0.0000	1.0000	100.00
5.5	7,619		0.0000	1.0000	100.00
6.5					100.00
7.5	20,192		0.0000		
8.5	20,192		0.0000		
9.5	35,788		0.0000		
10.5	35,788		0.0000		
11.5	35,788		0.0000		
12.5	35,788		0.0000		
13.5	35,788		0.0000		
14.5					
15.5					
16.5					
17.5					
18.5					
19.5					
20.5					
21.5					
22.5					
23.5					
24.5					
25.5					
26.5					
27.5					
28.5					
29.5					
30.5					
31.5					
32.5					
33.5					
34.5					
35.5					
36.5					
37.5					
38.5	9,638		0.0000		

AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 382 OUTFALL LINES

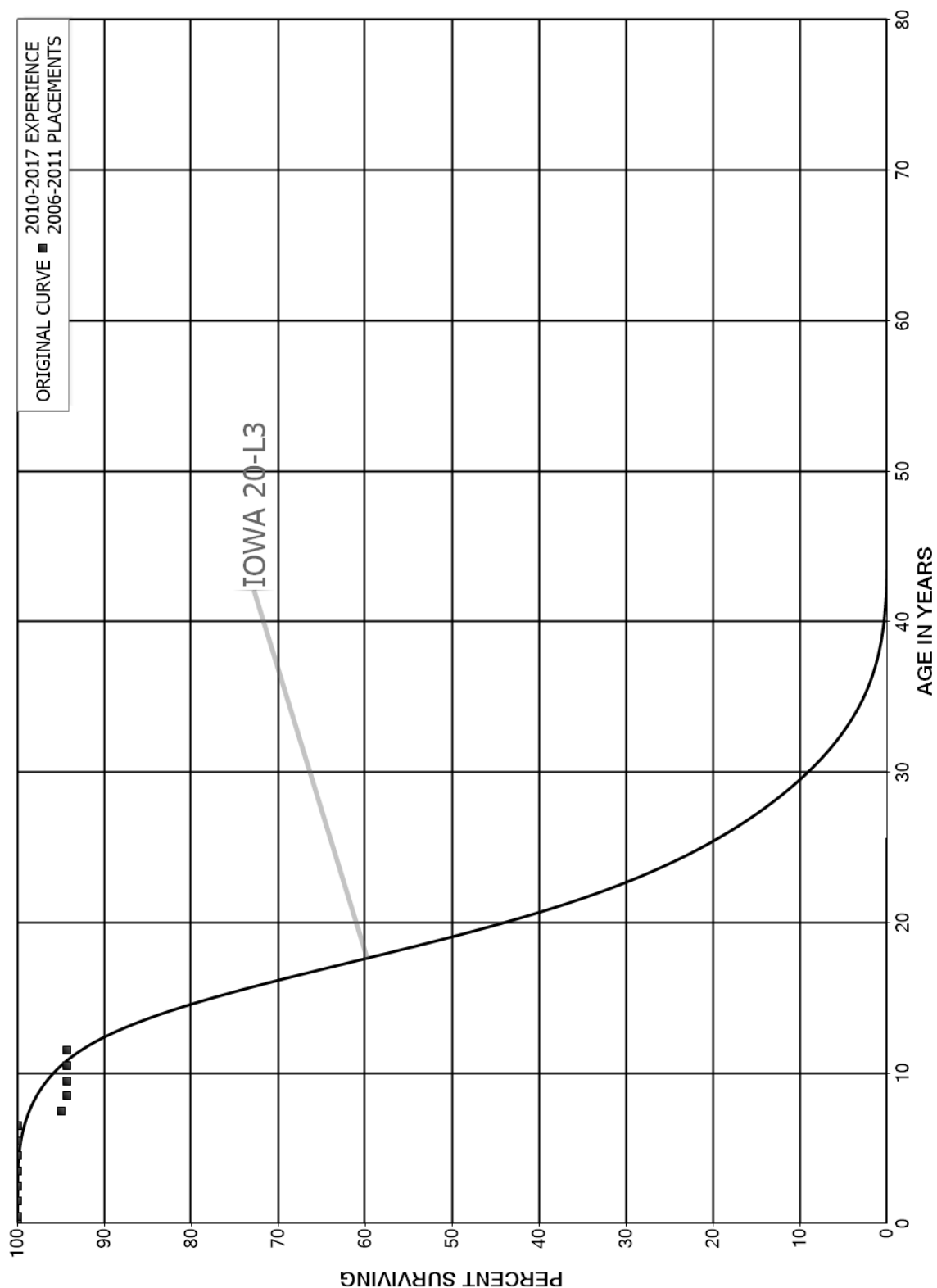
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1972-2011

EXPERIENCE BAND 2011-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	14,801		0.0000		
40.5	14,801		0.0000		
41.5	14,801		0.0000		
42.5	14,801		0.0000		
43.5	14,801		0.0000		
44.5	9,638		0.0000		
45.5					

AQUA PENNSYLVANIA, INC.
 ALL OTHER WASTEWATER OPERATIONS
 ACCOUNT 389.2 OTHER PLANT AND MISCELLANEOUS EQUIPMENT - COLLECTION
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 389.2 OTHER PLANT AND MISCELLANEOUS EQUIPMENT - COLLECTION

ORIGINAL LIFE TABLE

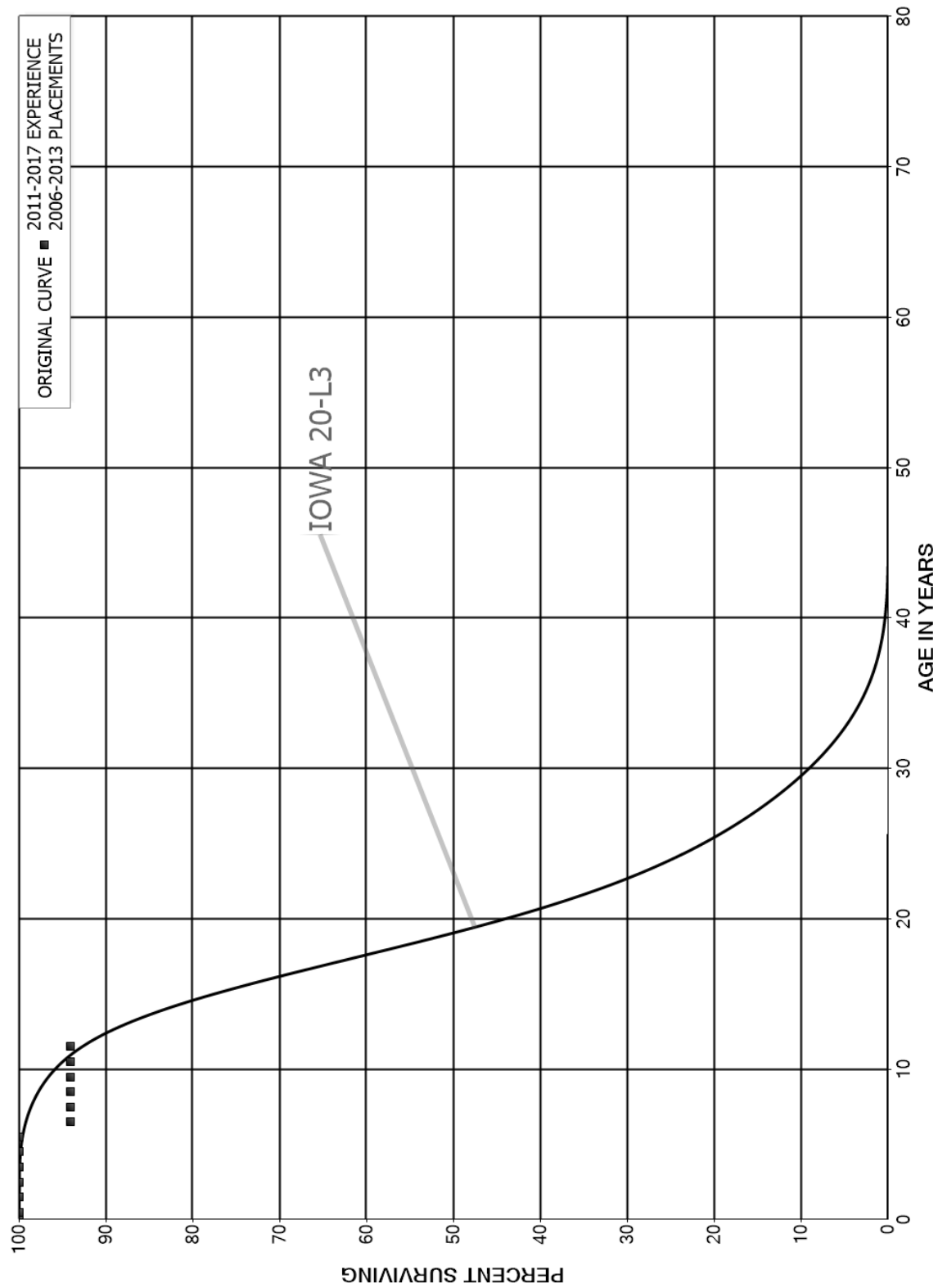
PLACEMENT BAND 2006-2011

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	358,061		0.0000	1.0000	100.00
0.5	358,061		0.0000	1.0000	100.00
1.5	358,061		0.0000	1.0000	100.00
2.5	358,061		0.0000	1.0000	100.00
3.5	699,183		0.0000	1.0000	100.00
4.5	699,183		0.0000	1.0000	100.00
5.5	699,183		0.0000	1.0000	100.00
6.5	697,664	35,151	0.0504	0.9496	100.00
7.5	341,122	2,624	0.0077	0.9923	94.96
8.5	338,498		0.0000	1.0000	94.23
9.5	338,498		0.0000	1.0000	94.23
10.5	329,059		0.0000	1.0000	94.23
11.5					94.23



AQUA PENNSYLVANIA, INC.
 ALL OTHER WASTEWATER OPERATIONS
 ACCOUNT 389.3 OTHER PLANT AND MISCELLANEOUS EQUIPMENT - PUMPING
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 389.3 OTHER PLANT AND MISCELLANEOUS EQUIPMENT - PUMPING

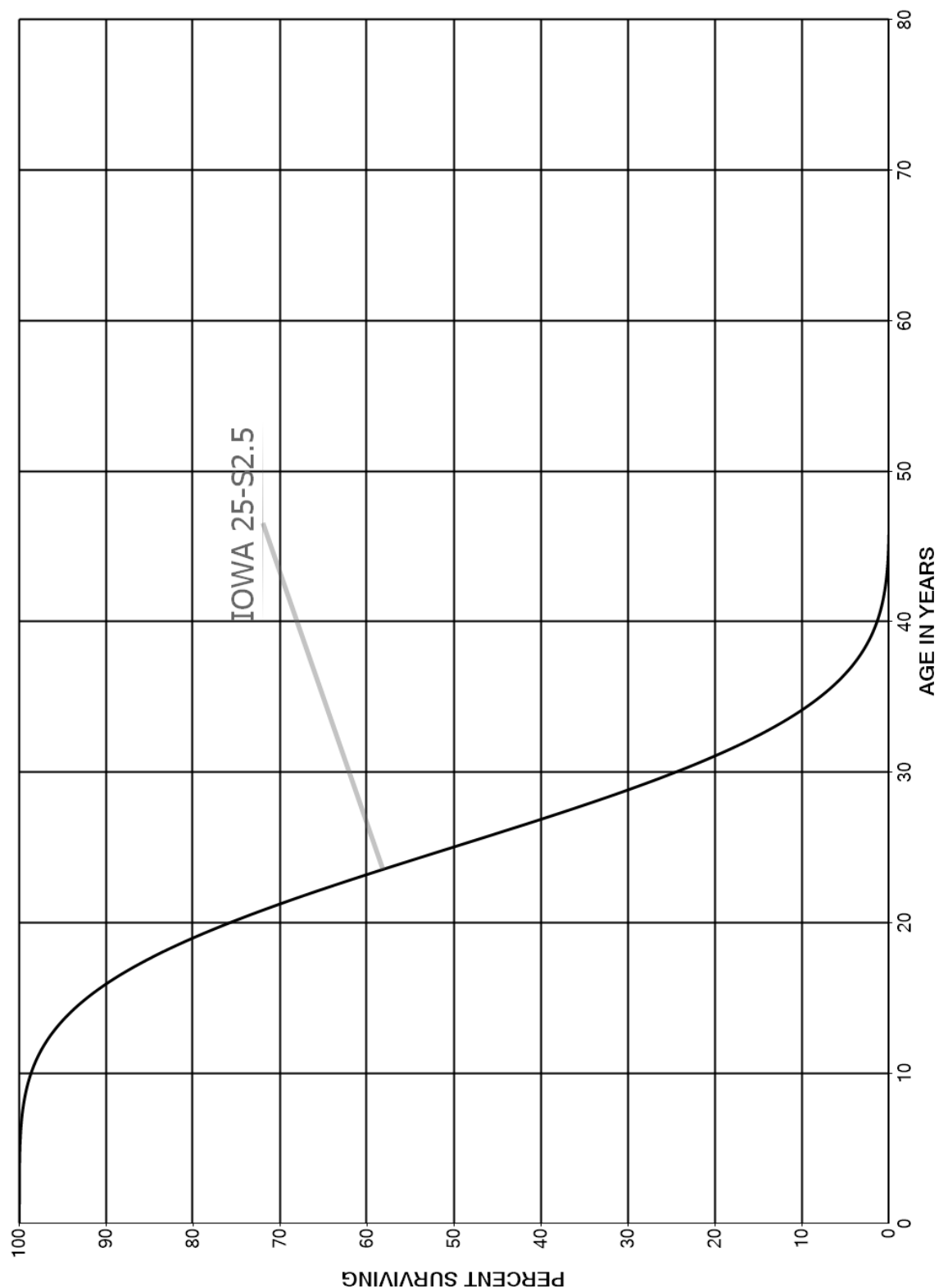
ORIGINAL LIFE TABLE

PLACEMENT BAND 2006-2013

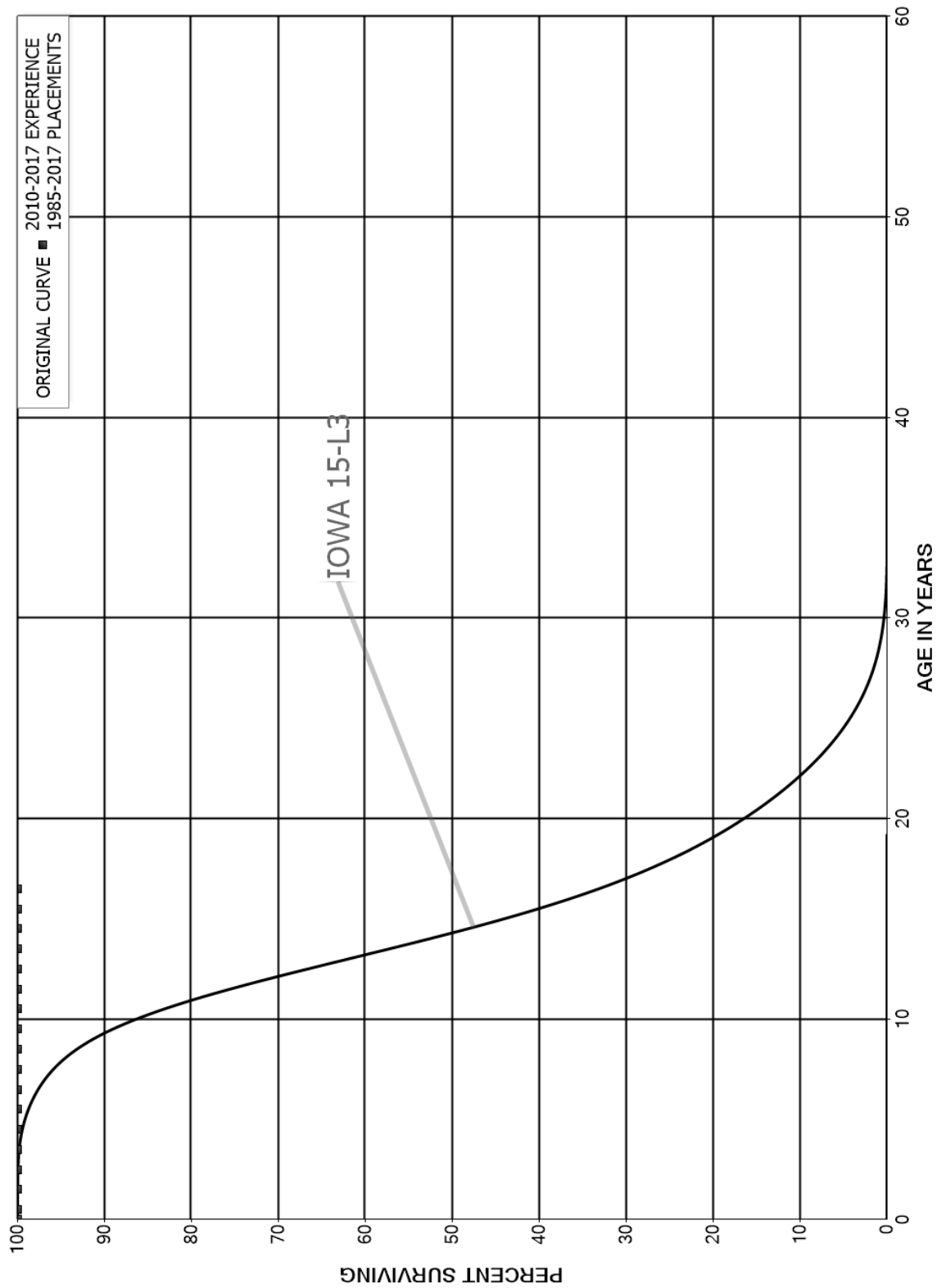
EXPERIENCE BAND 2011-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	48,489		0.0000	1.0000	100.00
0.5	48,489		0.0000	1.0000	100.00
1.5	49,019		0.0000	1.0000	100.00
2.5	49,425		0.0000	1.0000	100.00
3.5	51,999		0.0000	1.0000	100.00
4.5	19,941		0.0000	1.0000	100.00
5.5	21,572	1,289	0.0598	0.9402	100.00
6.5	18,882		0.0000	1.0000	94.02
7.5	18,476		0.0000	1.0000	94.02
8.5	17,124		0.0000	1.0000	94.02
9.5	16,105		0.0000	1.0000	94.02
10.5	12,722		0.0000	1.0000	94.02
11.5					94.02

AQUA PENNSYLVANIA, INC.
 ALL OTHER WASTEWATER OPERATIONS
 ACCOUNT 389.4 OTHER PLANT AND MISCELLANEOUS EQUIPMENT - TREATMENT AND DISPOSAL
 SMOOTH SURVIVOR CURVE



AQUA PENNSYLVANIA, INC.
 ALL OTHER WASTEWATER OPERATIONS
 ACCOUNT 391 TRANSPORTATION EQUIPMENT
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 391 TRANSPORTATION EQUIPMENT

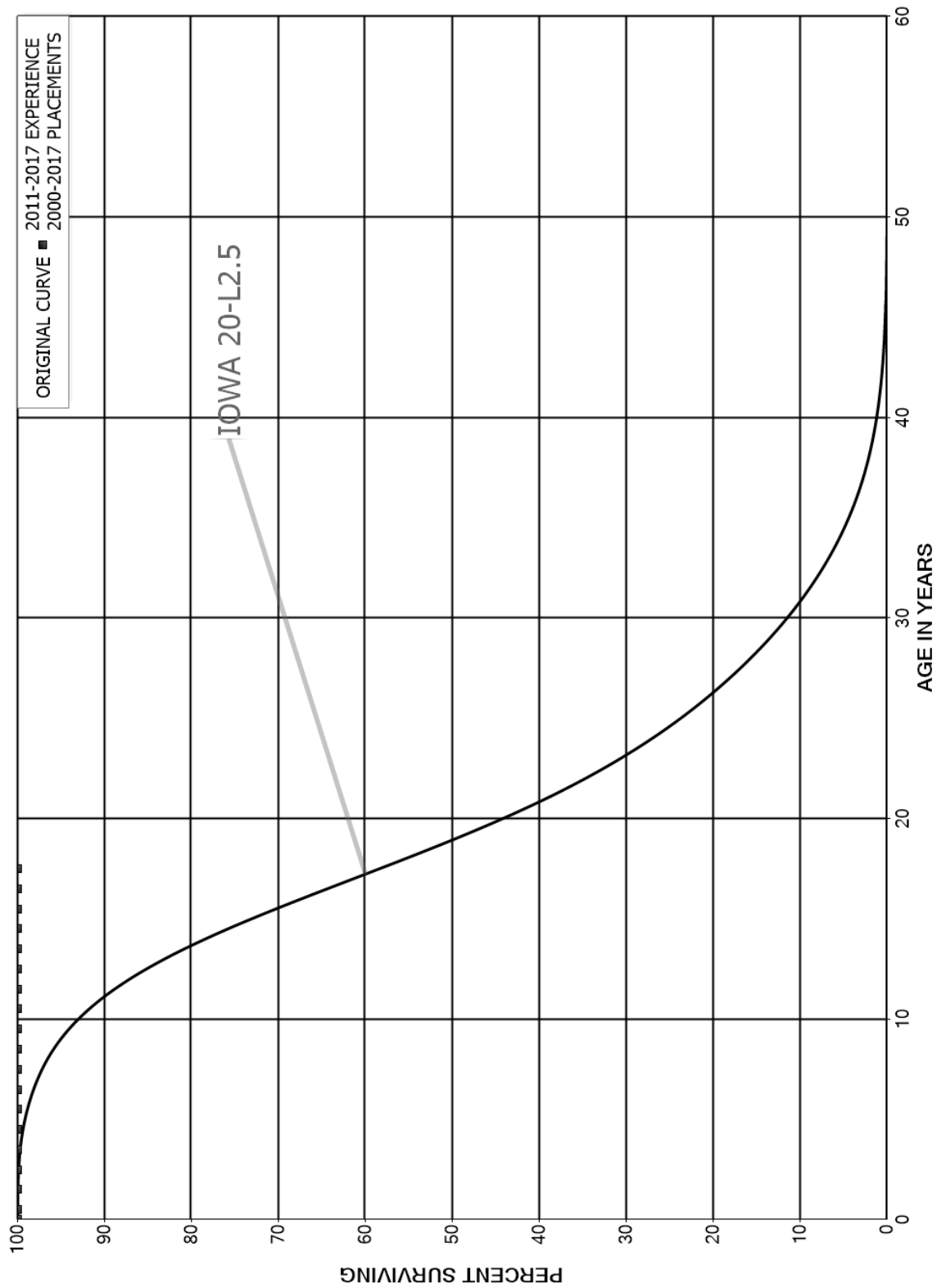
ORIGINAL LIFE TABLE

PLACEMENT BAND 1985-2017

EXPERIENCE BAND 2010-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	245,886		0.0000	1.0000	100.00
0.5	150,034		0.0000	1.0000	100.00
1.5	96,065		0.0000	1.0000	100.00
2.5	153,794		0.0000	1.0000	100.00
3.5	156,001		0.0000	1.0000	100.00
4.5	67,667		0.0000	1.0000	100.00
5.5	32,509		0.0000	1.0000	100.00
6.5	16,690		0.0000	1.0000	100.00
7.5	0		0.0000	1.0000	100.00
8.5	0		0.0000	1.0000	100.00
9.5	0		0.0000	1.0000	100.00
10.5	0		0.0000	1.0000	100.00
11.5	0		0.0000	1.0000	100.00
12.5	0		0.0000	1.0000	100.00
13.5	0		0.0000	1.0000	100.00
14.5	0		0.0000	1.0000	100.00
15.5	0		0.0000	1.0000	100.00
16.5					100.00
17.5					
18.5					
19.5					
20.5	12,000		0.0000		
21.5	12,000		0.0000		
22.5	12,000		0.0000		
23.5	30,000		0.0000		
24.5	30,000		0.0000		
25.5	30,000		0.0000		
26.5	12,000		0.0000		
27.5	12,000		0.0000		
28.5	0		0.0000		
29.5	0		0.0000		
30.5	0		0.0000		
31.5	0		0.0000		
32.5					

AQUA PENNSYLVANIA, INC.
 ALL OTHER WASTEWATER OPERATIONS
 ACCOUNT 395 POWER OPERATED EQUIPMENT
 ORIGINAL AND SMOOTH SURVIVOR CURVES



AQUA PENNSYLVANIA, INC.
ALL OTHER WASTEWATER OPERATIONS

ACCOUNT 395 POWER OPERATED EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 2000-2017

EXPERIENCE BAND 2011-2017

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	31,894		0.0000	1.0000	100.00
0.5	25,379		0.0000	1.0000	100.00
1.5	25,379		0.0000	1.0000	100.00
2.5	29,146		0.0000	1.0000	100.00
3.5	35,489		0.0000	1.0000	100.00
4.5	39,705		0.0000	1.0000	100.00
5.5	101,182		0.0000	1.0000	100.00
6.5	85,120		0.0000	1.0000	100.00
7.5	121,064		0.0000	1.0000	100.00
8.5	117,705		0.0000	1.0000	100.00
9.5	111,075		0.0000	1.0000	100.00
10.5	46,138		0.0000	1.0000	100.00
11.5	42,694		0.0000	1.0000	100.00
12.5	42,033		0.0000	1.0000	100.00
13.5	39,049		0.0000	1.0000	100.00
14.5	30,076		0.0000	1.0000	100.00
15.5	30,076		0.0000	1.0000	100.00
16.5	30,076		0.0000	1.0000	100.00
17.5					100.00

PART VII. DETAILED DEPRECIATION CALCULATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	PCT OF COL 4 TOTAL (6)
1928	496,955	422,109	74,846	74,846	0.2
1939	1,385,958	1,127,337	258,621	333,467	0.7
1942	2,187,716	1,734,806	452,910	786,376	1.8
1944	2,830,729	2,220,926	609,803	1,396,179	3.1
1947	1,432,092	1,084,983	347,109	1,743,288	3.9
1950	921,499	688,738	232,761	1,976,049	4.4
1952	1,655,208	1,203,456	451,752	2,427,801	5.4
1955	3,012,540	2,163,986	848,554	3,276,355	7.3
1958	1,326,185	912,593	413,592	3,689,947	8.2
2005	182,285	41,216	141,069	3,831,016	8.6
2009	103,804	18,229	85,575	3,916,591	8.7
2011	2,899,713	434,833	2,464,880	6,381,471	14.2
2013	6,262,581	774,520	5,488,061	11,869,532	26.5
2016	330,239	251,854	78,385	11,947,917	26.7
2018	32,087,020	1,787,775	30,299,245	42,247,161	94.3
2020	90,977	2,648	88,329	42,335,490	94.5
2021	1,888,155	23,831	1,864,324	44,199,814	98.6
2022	617,820	1,336	616,484	44,816,300	100.0
SUBTOTAL	59,711,475	14,895,176	44,816,300		
NONDEPRECIABLE	626,584				
TOTAL	60,338,058	14,895,176	44,816,300		

UTILITY PLANT IN SERVICE

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

ACCOUNT 361 COLLECTION MAINS - GRAVITY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R2.5						
NET SALVAGE PERCENT.. 0						
1928	345,045.18	310,541	279,519	65,526	10.42	6,288
1939	958,160.00	824,592	742,218	215,942	13.40	16,115
1942	1,647,307.01	1,392,633	1,253,514	393,793	14.58	27,009
1944	2,077,112.11	1,727,950	1,555,335	521,777	15.71	33,213
1947	1,239,751.01	1,019,323	917,497	322,254	16.16	19,941
1950	754,871.15	606,614	546,016	208,855	17.54	11,907
1952	1,441,781.94	1,136,413	1,022,890	418,892	18.74	22,353
1955	2,385,279.29	1,830,940	1,648,036	737,243	20.21	36,479
1958	1,158,659.63	864,244	777,909	380,751	21.72	17,530
2005	182,284.86	45,790	41,216	141,069	49.92	2,826
2009	103,804.11	20,252	18,229	85,575	52.61	1,627
2011	2,899,712.68	483,092	434,833	2,464,880	53.77	45,841
2013	6,262,581.12	860,479	774,520	5,488,061	54.94	99,892
2016	48,418.58	4,484	4,036	44,383	56.36	787
2018	32,087,019.67	1,986,187	1,787,775	30,299,245	56.85	532,968
2020	21,512.21	643	579	20,933	56.73	369
2021	1,850,273.47	24,794	22,317	1,827,956	55.43	32,978
2022	606,951.12	1,396	1,257	605,695	53.64	11,292
	56,070,525.14	13,140,367	11,827,696	44,242,830		919,415
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 48.1						1.64

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

ACCOUNT 363 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R4						
NET SALVAGE PERCENT.. 0						
1928	151,909.45	148,112	142,590	9,319	2.40	3,883
1939	427,798.14	400,034	385,119	42,679	5.74	7,435
1942	540,408.58	499,932	481,292	59,117	6.46	9,151
1944	753,616.60	691,368	665,591	88,026	7.00	12,575
1947	192,340.70	173,972	167,486	24,855	7.89	3,150
1950	166,628.15	148,249	142,722	23,906	8.90	2,686
1952	213,425.81	187,559	180,566	32,860	9.62	3,416
1955	627,260.80	535,932	515,950	111,311	11.38	9,781
1958	167,525.85	139,901	134,684	32,842	12.59	2,609
2020	65,184.05	1,734	1,670	63,514	64.04	992
2021	92,006.49	1,049	1,010	90,996	65.04	1,399
2022	28,910.74	55	53	28,858	65.66	440
	3,427,015.36	2,927,897	2,818,733	608,283		57,517
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 10.6 1.68						

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

ACCOUNT 391 TRANSPORTATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 15-L3						
NET SALVAGE PERCENT.. 0						
2016	281,820.00	118,449	247,818	34,002	7.93	4,288
	281,820.00	118,449	247,818	34,002		4,288
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.9						1.52

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

ACCOUNT 393 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
2020	1,424.36	125	112	1,312	18.25	72
	1,424.36	125	112	1,312		72
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						18.2 5.05

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

ACCOUNT 396 COMMUNICATION EQUIPMENT - GENERAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2020	2,856.24	333	287	2,569	13.25	194
2021	3,431.26	172	148	3,283	14.25	230
2022	1,143.75	10	8	1,135	14.88	76
	7,431.25	515	443	6,988		500
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.0 6.73						

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

ACCOUNT 396.7 COMMUNICATION EQUIPMENT - SCADA

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 10-SQUARE						
NET SALVAGE PERCENT.. 0						
2021	19,153.88	1,437	1,210	17,944	9.25	1,940
2022	6,384.63	80	67	6,318	9.88	639
	25,538.51	1,517	1,277	24,262		2,579
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						9.4 10.10

**CONSUMERS' ADVANCES AND
CONTRIBUTIONS IN AID OF CONSTRUCTION**

AQUA PENNSYLVANIA, INC.
 CHELTENHAM OPERATIONS
 CUSTOMERS' ADVANCES AND CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 361 COLLECTION MAINS - GRAVITY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
 RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R2.5						
NET SALVAGE PERCENT.. 0						
2021	72,210.00	968	811	71,399	55.43	1,288
2022	24,070.00	55	46	24,024	53.64	448
	96,280.00	1,023	857	95,423		1,736
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 55.0 1.80						

AQUA PENNSYLVANIA, INC.
 CHELTENHAM OPERATIONS
 CUSTOMERS' ADVANCES AND CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 363 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
 RELATED TO ORIGINAL COST AS OF MARCH 31, 2022

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R4						
NET SALVAGE PERCENT.. 0						
2021	4,500.00	51	43	4,457	65.04	69
2022	1,500.00	3	3	1,497	65.66	23
	6,000.00	54	46	5,954		92
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 64.7 1.53						

**PART VIII. EXPERIENCED AND ESTIMATED
NET SALVAGE**

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

EXPERIENCED AND ESTIMATED RETIREMENTS BY ACCOUNT AND ASSOCIATED
COST OF REMOVAL, GROSS SALVAGE, AND NET SALVAGE

ACCT	REGULAR RETIREMENTS	COST OF REMOVAL	GROSS SALVAGE	NET SALVAGE
2017 TRANSACTION YEAR				
2018 TRANSACTION YEAR				
2019 TRANSACTION YEAR				
2020 TRANSACTION YEAR				
363.00		992.67		992.67-
		992.67		992.67-
2021 TRANSACTION YEAR				
361.00		997.05		997.05-
363.00		776.20		776.20-
		1,773.25		1,773.25-
TOTAL		2,765.92		2,765.92-

Exhibit No. 6-E, Part III
Docket No. R-2021-3027385
Docket No. R-2021-3027386
Witness: J. J. Spanos

AQUA PENNSYLVANIA, INC.

BRYN MAWR, PENNSYLVANIA

CHELtenham OPERATIONS

2023 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO WASTEWATER PLANT
AS OF MARCH 31, 2023

Prepared by:



*Excellence Delivered **As Promised***

Exhibit No. 6-E, Part III
Docket No. R-2021-3027385
Docket No. R-2021-3027386
Witness: J. J. Spanos

AQUA PENNSYLVANIA, INC.

Bryn Mawr, Pennsylvania

CHELtenham OPERATIONS

2023 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO WASTEWATER PLANT
AS OF MARCH 31, 2023

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Camp Hill, Pennsylvania



*Excellence Delivered **As Promised***

August 13, 2021

Aqua Pennsylvania, Inc.
762 Lancaster Avenue
Bryn Mawr, PA 19010

Attention: William C. Packer
Vice President, Regulatory Accounting & Regional Controller

Ladies and Gentlemen:

Pursuant to your request, we have determined the annual depreciation accruals applicable to wastewater plant as of March 31, 2023 for the Cheltenham Operations. The results of our study as of March 31, 2022 are presented in our report titled "2022 Depreciation Study - Calculated Annual Depreciation Accruals Related to Wastewater Plant as of March 31, 2022". The same methods, procedures and estimates are used in both studies.

Summaries of the original cost, annual accruals, book depreciation reserve and amortization of net salvage are presented in Tables 1 through 4, beginning on page I-3 of the attached report.

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

A handwritten signature in black ink, reading "John J. Spanos".

JOHN J. SPANOS
President

JJS:mle

067880.100

Gannett Fleming Valuation and Rate Consultants, LLC

207 Senate Avenue • Camp Hill, PA 17011-2316

t: 717.763.7211 • f: 717.763.4590

www.gfvrc.com

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PART I. RESULTS OF STUDY

AQUA PENNSYLVANIA, INC.
DEPRECIATION STUDY
PART I. RESULTS OF STUDY

SUMMARY OF RESULTS

Tables 1 through 4 presented on pages I-3 through I-6 summarize the results of the depreciation study as of March 31, 2023 for the Cheltenham Operations system. Table 1 sets forth, by depreciable group, the estimated survivor curve, original cost, book depreciation reserve as of March 31, 2023, future book accruals, calculated annual accrual amount and rate, and composite remaining life for plant in service. Table 2 presents the bringforward of the book reserve to March 31, 2023. Table 3 sets forth the calculation of the depreciation accruals for the twelve months ended March 31, 2023. Table 4 presents the annual amortization of experienced and estimated net salvage based on the period 2018 through 2022.

DESCRIPTION OF DETAILED TABULATIONS

The supporting data for the depreciation calculations are presented in account sequence in the section beginning on page II-2. The original cost, calculated accrued depreciation, allocated book reserve, future accruals, remaining life and annual accrual are shown for each vintage of each account or subaccount. The amounts of regular retirements, gross salvage and cost of removal are set forth by account for the years 2018 through 2022, beginning on page III-2.

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WASTEWATER PLANT AS OF MARCH 31, 2023

DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	ORIGINAL COST AS OF MARCH 31, 2023 (3)	BOOK DEPRECIATION RESERVE (4)	FUTURE ACCRUALS (5)	CALCULATED ANNUAL ACCRUAL AMOUNT (6)	CALCULATED RATE (7)=(6)/(3)	COMPOSITE REMAINING LIFE (8)=(5)/(6)
INTANGIBLE PLANT							
351.00 ORGANIZATION	NONDEPR.	617,031.21					
TOTAL INTANGIBLE PLANT		617,031.21					
NONDEPRECIABLE PLANT							
353.20 LAND AND LAND RIGHTS - COLLECTION	NONDEPR.	9,552.64					
TOTAL NONDEPRECIABLE PLANT		9,552.64					
DEPRECIABLE PLANT							
361.00 COLLECTION MAINS - GRAVITY	75-R2.5	58,973,381.05	12,536,531	46,436,850	959,044	1.63	48.4
363.00 SERVICES	70-R4	3,499,422.68	2,874,147	625,276	53,566	1.53	11.7
391.00 TRANSPORTATION EQUIPMENT	15-L3	281,820.00	252,102	29,718	4,162	1.48	7.1
393.00 TOOLS, SHOP AND GARAGE EQUIPMENT	20-SQ	1,424.36	184	1,241	72	*	17.2
396.00 COMMUNICATION EQUIPMENT	15-SQ	7,431.25	939	6,492	498	*	13.0
GENERAL	10-SQ	25,538.51	3,831	21,708	2,553	*	8.5
SCADA		32,969.76	4,770	28,200	3,051		
TOTAL ACCOUNT 396							
TOTAL DEPRECIABLE PLANT		62,789,017.85	15,667,733	47,121,285	1,019,895		
TOTAL WASTEWATER PLANT IN SERVICE		63,415,601.70	15,667,733	47,121,285	1,019,895		
CUSTOMERS' ADVANCES AND CONTRIBUTIONS IN AID OF CONSTRUCTION							
DEPRECIABLE PLANT							
361.00 COLLECTION MAINS - GRAVITY	75-R2.5	505,470.00	6,273	499,197	9,038	1.79	55.2
363.00 SERVICES	70-R4	6,000.00	138	5,862	91	1.52	64.4
TOTAL CUSTOMERS' ADVANCES AND CONTRIBUTIONS IN AID OF CONSTRUCTION		511,470.00	6,410	505,059	9,129		
AMORTIZATION OF NET SALVAGE					1,004		
TOTAL WASTEWATER PLANT		62,904,131.70	15,661,322	46,616,226	1,011,770		

* ACCRUALS CALCULATED FOR EACH ASSET BY THE COMPANY'S PROPERTY RECORD SYSTEM USING THE AMORTIZATION PERIOD SET FORTH IN COLUMN 2.

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

TABLE 2. BRINGFORWARD TO MARCH 31, 2023 OF THE BOOK RESERVE AS OF MARCH 31, 2022

ACCOUNT (1)	BOOK RESERVE AS OF MARCH 31, 2022 (2)	+	DEPRECIATION ACCRUALS (3)	+	AMORTIZATION OF NET SALVAGE (4)	-	PROJECTED RETIREMENTS (5)	+	PROJECTED GROSS SALVAGE (6)	-	PROJECTED COST OF REMOVAL (7)	=	BOOK RESERVE AS OF MARCH 31, 2023 (8)
361.00	11,827,696		943,360		280		233,088				1,717		12,536,531
363.00	2,818,733		58,182		386		2,593				561		2,874,147
391.00	247,818		4,284										252,102
393.00	112		71										184
396.00	443		496										939
396.70	1,277		2,554										3,831
SUBTOTAL	14,896,079		1,008,947		666		235,681		0		2,278		15,667,733
LESS:													
CUSTOMERS' ADVANCES AND CONTRIBUTIONS													
361.00	(857)		(5,416)										(6,273)
363.00	(46)		(92)										(138)
SUBTOTAL	(903)		(5,508)		0		0		0		0		(6,410)
TOTAL	14,895,176		1,003,439		666		235,681		0		2,278		15,661,322



AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

TABLE 3. CALCULATION OF DEPRECIATION ACCRUALS FOR THE TWELVE MONTHS ENDED MARCH 31, 2023

ACCOUNT (1)	ORIGINAL COST AS OF MARCH 31, 2022 (2)	ORIGINAL COST AS OF MARCH 31, 2023 (3)	ANNUAL ACCRUAL RATE (4)	ANNUAL ACCRUAL AMOUNT * (5)
UTILITY PLANT IN SERVICE				
361.00 COLLECTION MAINS - GRAVITY	56,070,525.14	58,973,381.05	1.64	943,360
363.00 SERVICES	3,427,015.36	3,499,422.68	1.68	58,182
391.00 TRANSPORTATION EQUIPMENT	281,820.00	281,820.00	1.52	4,284
393.00 TOOLS, SHOP AND GARAGE EQUIPMENT	1,424.36	1,424.36	5.00 **	71
396.00 COMMUNICATION EQUIPMENT - GENERAL	7,431.25	7,431.25	6.67 **	496
396.70 COMMUNICATION EQUIPMENT - SCADA	25,538.51	25,538.51	10.00 **	2,554
TOTAL PLANT IN SERVICE	59,813,754.62	62,789,017.85		1,008,947
CUSTOMERS' ADVANCES AND CONTRIBUTIONS IN AID OF CONSTRUCTION				
361.20 COLLECTION MAINS - GRAVITY	96,280.00	505,470.00	1.80	5,416
363.20 SERVICES	6,000.00	6,000.00	1.53	92
TOTAL CUSTOMERS' ADVANCES AND CONTRIBUTIONS IN AID OF CONSTRUCTION	102,280.00	511,470.00		5,508
TOTAL PLANT IN SERVICE	59,711,474.62	62,277,547.85		1,003,439

* ANNUAL ACCRUAL AMOUNT BASED ON MONTHLY AVERAGES

** ACCRUAL RATE BASED ON AMORTIZATION PERIOD

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

TABLE 4. AMORTIZATION OF EXPERIENCED AND ESTIMATED NET SALVAGE

ACCOUNT (1)	2018			2019			2020			2021			2022			NET SALVAGE (12)*	SALVAGE ACCURAL (13)=(12)/5
	GROSS SALVAGE (2)	COST OF REMOVAL (3)	+	GROSS SALVAGE (4)	COST OF REMOVAL (5)	+	GROSS SALVAGE (6)	COST OF REMOVAL (7)	+	GROSS SALVAGE (8)	COST OF REMOVAL (9)	+	GROSS SALVAGE (10)	COST OF REMOVAL (11)	=		
361.00											997.05			1,619.99		(2,617.04)	(523)
363.00								992.67			776.20			636.73		(2,405.60)	(481)
TOTAL	-	-	-	-	-	-	-	992.67	-	-	1,773.25	-	-	2,256.72	-	(5,022.64)	(1,004)

* COLUMN (12) EQUALS THE SUMMATION OF COLUMNS (2) THROUGH (11).

PART II. DETAILED DEPRECIATION CALCULATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	PCT OF COL 4 TOTAL (6)
1928	486,451	418,548	67,903	67,903	0.2
1939	1,366,376	1,127,991	238,385	306,288	0.7
1942	2,157,718	1,737,164	420,554	726,841	1.6
1944	2,795,457	2,242,635	552,822	1,279,663	2.8
1947	1,413,405	1,087,939	325,466	1,605,129	3.4
1950	911,249	692,532	218,717	1,823,845	3.9
1952	1,637,051	1,210,569	426,482	2,250,327	4.8
1955	2,985,361	2,202,213	783,148	3,033,475	6.5
1958	1,314,343	928,119	386,224	3,419,699	7.3
2005	181,943	43,791	138,152	3,557,851	7.6
2009	103,637	19,710	83,927	3,641,778	7.8
2011	2,895,385	476,880	2,418,505	6,060,283	13.0
2013	6,253,908	865,574	5,388,334	11,448,616	24.6
2016	330,179	256,855	73,324	11,521,940	24.7
2018	32,050,487	2,257,350	29,793,137	41,315,078	88.6
2020	90,954	4,241	86,713	41,401,790	88.8
2021	1,886,273	54,308	1,831,965	43,233,755	92.7
2022	2,717,089	33,444	2,683,645	45,917,401	98.5
2023	700,284	1,460	698,824	46,616,226	100.0
SUBTOTAL	62,277,548	15,661,322	46,616,226		
NONDEPRECIABLE	626,584				
TOTAL	62,904,132	15,661,322	46,616,226		

UTILITY PLANT IN SERVICE

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

ACCOUNT 361 COLLECTION MAINS - GRAVITY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R2.5						
NET SALVAGE PERCENT.. 0						
1928	334,792.94	301,347	274,214	60,579	10.52	5,758
1939	939,025.74	810,004	737,073	201,953	13.34	15,139
1942	1,617,805.84	1,371,738	1,248,230	369,576	14.49	25,506
1944	2,042,476.78	1,720,991	1,566,037	476,440	14.71	32,389
1947	1,221,204.55	1,008,349	917,560	303,645	15.99	18,990
1950	744,726.49	601,367	547,221	197,505	17.34	11,390
1952	1,423,748.18	1,128,178	1,026,600	397,148	18.54	21,421
1955	2,358,414.90	1,837,441	1,672,002	686,413	19.21	35,732
1958	1,146,890.58	868,884	790,652	356,239	20.72	17,193
2005	181,942.76	48,124	43,791	138,152	49.36	2,799
2009	103,636.68	21,660	19,710	83,927	52.04	1,613
2011	2,895,384.92	524,065	476,880	2,418,505	53.18	45,478
2013	6,253,907.58	951,219	865,574	5,388,334	54.35	99,141
2016	48,358.98	5,223	4,753	43,606	55.75	782
2018	32,050,487.27	2,480,708	2,257,350	29,793,137	56.60	526,381
2020	21,489.49	986	897	20,592	57.13	360
2021	1,848,392.56	55,267	50,291	1,798,102	56.73	31,696
2022	2,956,863.23	39,622	36,055	2,920,808	55.43	52,694
2023	783,831.58	1,803	1,641	782,191	53.64	14,582
	58,973,381.05	13,776,976	12,536,531	46,436,850		959,044
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 48.4						1.63

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

ACCOUNT 363 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R4						
NET SALVAGE PERCENT.. 0						
1928	151,658.04	148,003	144,334	7,324	2.34	3,130
1939	427,349.85	400,854	390,918	36,432	5.54	6,576
1942	539,911.70	501,362	488,934	50,978	6.21	8,209
1944	752,980.02	693,796	676,598	76,382	6.72	11,366
1947	192,200.12	174,710	170,379	21,821	7.58	2,879
1950	166,522.26	149,004	145,311	21,211	8.55	2,481
1952	213,302.74	188,645	183,969	29,334	9.25	3,171
1955	626,946.15	543,688	530,211	96,735	10.38	9,319
1958	167,452.46	140,961	137,467	29,985	12.17	2,464
2020	65,183.43	2,725	2,658	62,525	63.04	992
2021	92,005.71	2,447	2,386	89,620	64.04	1,399
2022	85,160.23	971	947	84,213	65.04	1,295
2023	18,749.97	36	35	18,715	65.66	285
	3,499,422.68	2,947,202	2,874,147	625,276		53,566
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 11.7 1.53						

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

ACCOUNT 391 TRANSPORTATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 15-L3						
NET SALVAGE PERCENT.. 0						
2016	281,820.00	136,965	252,102	29,718	7.14	4,162
	281,820.00	136,965	252,102	29,718		4,162
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.1						1.48

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

ACCOUNT 393 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
2020	1,424.36	196	184	1,241	17.25	72
	1,424.36	196	184	1,241		72
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						17.2 5.05

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

ACCOUNT 396 COMMUNICATION EQUIPMENT - GENERAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 15-SQUARE						
NET SALVAGE PERCENT.. 0						
2020	2,856.24	524	502	2,354	12.25	192
2021	3,431.26	400	383	3,048	13.25	230
2022	1,143.75	57	54	1,090	14.25	76
	7,431.25	981	939	6,492		498
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 13.0 6.70						

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

ACCOUNT 396.7 COMMUNICATION EQUIPMENT - SCADA

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 10-SQUARE						
NET SALVAGE PERCENT.. 0						
2021	19,153.88	3,352	3,352	15,802	8.25	1,915
2022	6,384.63	479	479	5,906	9.25	638
	25,538.51	3,831	3,831	21,708		2,553
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						8.5 10.00

**CUSTOMERS' ADVANCES AND
CONTRIBUTIONS IN AID OF CONSTRUCTION**

AQUA PENNSYLVANIA, INC.
 CHELTENHAM OPERATIONS
 CUSTOMERS' ADVANCES AND CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 361 COLLECTION MAINS - GRAVITY

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
 RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R2.5						
NET SALVAGE PERCENT.. 0						
2021	72,210.00	2,159	1,983	70,227	56.73	1,238
2022	330,962.50	4,435	4,074	326,888	55.43	5,897
2023	102,297.50	235	216	102,082	53.64	1,903
	505,470.00	6,829	6,273	499,197		9,038
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 55.2 1.79						

AQUA PENNSYLVANIA, INC.
 CHELTENHAM OPERATIONS
 CUSTOMERS' ADVANCES AND CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 363 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
 RELATED TO ORIGINAL COST AS OF MARCH 31, 2023

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 70-R4						
NET SALVAGE PERCENT.. 0						
2021	4,500.00	120	121	4,379	64.04	68
2022	1,500.00	17	17	1,483	65.04	23
	6,000.00	137	138	5,862		91
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 64.4 1.52						

PART III. EXPERIENCED NET SALVAGE

AQUA PENNSYLVANIA, INC.
CHELTENHAM OPERATIONS

EXPERIENCED AND ESTIMATED RETIREMENTS BY ACCOUNT AND ASSOCIATED
COST OF REMOVAL, GROSS SALVAGE, AND NET SALVAGE

ACCT	REGULAR RETIREMENTS	COST OF REMOVAL	GROSS SALVAGE	NET SALVAGE
2018 TRANSACTION YEAR				
2019 TRANSACTION YEAR				
2020 TRANSACTION YEAR				
363.00		992.67		992.67-
		992.67		992.67-
2021 TRANSACTION YEAR				
361.00		997.05		997.05-
363.00		776.20		776.20-
		1,773.25		1,773.25-
2022 TRANSACTION YEAR				
361.00		1,619.99		1,619.99-
363.00		636.73		636.73-
		2,256.72		2,256.72-
TOTAL		5,022.64		5,022.64-